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The Journal
of
Abnormal Psychology
and
Social Psychology

Edited by
MORTON PRINCE, M.D., LL.D.

in co-operation with
FLOYD H. ALLPORT, PH.D.
University of North Carolina

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ORIGINAL ARTICLES

IMITATION AND MENTAL ADJUSTMENT

BY JOSEPH PETERSON
PEABODY COLLEGE, NASHVILLE, TENNESSEE

IN a very real sense one's behavior does not begin at birth, as we too commonly seem to suppose in our over-simplified descriptions. Behavior is an outcropping of metabolic processes that are very old indeed, and that have become organized in certain rather definite structures in each species of animal. These structures not only determine in large measure what changes in the world about the individual are to affect him, are to be responded to as stimuli, but they also fix for him, within certain general limits, the sort of response that he can make. This might be illustrated on different animals, such as the duckling, the chick, the kitten, or the bee, but we shall leave the reader the thinking out of these details. The *tabula rasa* and the clay-in-the-potter's-hands conceptions of earlier days gave too passive a view of the individual, and have undoubtedly been responsible for the extreme emphasis that has been placed on the immediate stimulus, as if the response is only to that stimulus and is practically determined by it. The neglect of the autonomic processes in our texts on general psychology and the emphasis placed on the senses and on the receptors and the reflex tracts of different levels, are natural consequences of this attitude from which psychology is now only beginning to free itself, important as the facts thus unduly emphasized may be.

The imperfections of our knowledge of the autonomic nervous system, and of the various inner "drives" is a real obstacle to advance in a more fruitful direction. Meanwhile considerable progress has been made of late toward the measurement of certain individual differences, progress that has called attention strongly to the fact that the immediate stimuli are not relatively as potent in the shaping of the

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individual's career as was implied in the sensation psychology still fresh on our minds. Despite the recent progress toward the establishment of a science of mental measurement, it must be confessed that many important dynamic qualities making for individual success in the world have not yet yielded to quantitative methods. Moreover, when we take the next logical step after measurement — that of attempting to affect changes in the behavior mechanisms which we have thus evaluated, and of correcting modifications resulting from mal-adjustments to the social environment — we find much need of further scientific work. This is evinced in the multiplicity of theories regarding mental adjustment and, indeed, of mind itself, some of which have not even scientific approaches.

Two points of importance may be indicated, with respect to which there is at present a rather large degree of agreement among scientific investigators of behavior. First, modifications in innate behavior mechanisms are forced by organic needs. In McDougall's words, "Habits are formed only in the service of the instincts. . . . The instinctive impulses determine the ends of all activities and supply the driving power by which all mental activities are sustained; and all the complex intellectual apparatus of the most highly developed mind is but a means toward these ends, is but the instrument through which these impulses seek their satisfaction, . . ."[1] There are differences of opinion as to the nature of the "instinctive impulses" and as to the relation of consciousness to their various forms of expression. Experimenters on animal behavior have been forced to study motivation to such behavior. Second, all such modifications as are effected in the innate mechanisms, are, in their primary aspects, brought about by the method which, after Lloyd Morgan, we call trial and error.

The exact number, as well as the nature, of the primary impulsions to activity is in much dispute, and current conceptions are by no means free from implications of spontaneous "forces" in the popular sense of the term "force." Indeed, high authorities propound distinctly vitalistic views, averring that physical conceptions of causality are inadequate. The primary impulsions usually take the form of instincts (in some cases of "emotions"), though the relations of instincts to the metabolic processes within the organism, as these are affected by the various stimulating conditions as well as by their own vital demands for continuity, are seldom made very clear. We hear much nowadays of "driving forces," "social forces," and of other such concepts. The older forces of the soul and of various faculties which finally yielded in scientific circles to associationism (the force of "ideas" and of stimuli and habits) are again appearing as "drives" in the instinctive life. Sometimes they seem almost to be spontaneous forces in the objectionable sense, but usually they are conceived as more scientifically justifiable impulsions based on the metabolic changes in the organism, which, of course, have constant points of contact with the environment. In other words, the passivity view of the associationists is yielding to more dynamic conceptions, even though some of the latter are not yet on a scientific basis.

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[1] McDougall, Wm., *Social Psychology*, 13th Ed., 1918, 44 and 45.

Experimental researches in learning, important among which are studies in animal learning, have given a large place in modern psychology to trial and error modifications of behavior. There are signs of revolt against the frequently expressed view, that in the learning of new acts the successes must at first come by chance, this term implying too strongly that the act bringing the success, or the needed adjustment, is not predictable or that it is not a natural outcome of the structure of the organism and its exciting circumstances. There are also differences of opinion as to the extent of trial and error learning and its relations to higher learning forms, on the one hand, and to the so-called tropisms on the other; and the question of how the successful acts become fixed and the unsuccessful ones become eliminated, is far from settled. Indeed, on this latter point we have a variety of views, ranging from those emphasizing consciousness, attention, and pleasure, as "stamping-in" agencies to mere repetition and recency as the fixing conditions, this latter being an obvious hold-over of associationism.

But in spite of these differences as to details, differences often of great import, it is true, the general *method* of modification of innate dispositions and the conditions impelling such modifications are in the main agreed upon today by experimental investigators in the field of learning, and the current view — if we may so characterize the points of agreement — has already had far-reaching effects on psychology and education. We are finding that animals do not have the high degree of intelligence that older observers and students of nature supposed; that acts which are apparently intelligent really do not imply the foresight and the keen perception that formerly were ascribed to them. Moreover, and this is most important for social and abnormal psychology, it is becoming plain that the so-called intelligent acts by humans are likewise really results of trial and error processes often quite devoid of much reflective reasoning. For example Hobbes' and Rousseau's views of the origin of social organization, the utilitarian and the "moral sense" views of industrial and moral relationships, the retributive doctrine of punishment and of social justice, and various other rationalistic views of human conduct, are no longer seriously entertained by psychologists. Indeed, even the views of local signature and general spatial orientation, more closely related to experimental data, are being modified by the trial and error conception of accommodation to environment.

But the newer conceptions of the method of mental adjustment have not found their way to any important extent into social and abnormal psychology. In these fields theories and vague conceptions abound and are yet but little affected by experimental methods and exact descriptions. This is partly due, no doubt, to the fact that many workers in these fields are not psychologists; but it is also a natural consequence of the greater complexity of behavior and of the difficulty of bringing the situations involved under the more accurate control of experimental conditions.

The conception of imitation as an important method of adjustment, though now, fortunately, omitted from important books on social psychology, is still in good standing with certain writers even of text books in this line of work; and it serves, no doubt, not only to retard progress by substitution of vague thinking for scientific analysis, but also to preserve the reflex idea of behavior to which we have already referred. If we are to make real progress in social psychology it is necessary to get rid of some of the terms that only give satisfaction to our ignorance and divert attention from the need of more scientific study. An important object of social psychology should be to give means of control of social processes and not merely ability to indicate and name uniformities in behavior. In abnormal psychology, where closer attention must be given to individual behavior in actual attempts to modify it, the imitation doctrine is obviously breaking down before a more dynamic view, although its counterpart, suggestion, still reigns supreme in certain quarters.

A recent text book on social psychology says: "Mutual imitation is the great means in human groups of making acquired habits uniform. The propagation of *acquired* uniformities from one individual to another is, indeed, impossible without imitation in some form."[2] Three "very distinct kinds of psychic processes" are described as different forms of imitation: (1) The social method of developing the instincts, "a more or less unconscious copying of instinctive actions of one animal by another, usually of the same species." "In lower animal forms, instinctive reaction can be excited only through the appropriate stimuli in the environment; but in many of the higher animals, including man, the seeing of the activity going on in other individuals, usually of the same species, excites the impulse also. Thus among dogs, if two dogs are fighting, a third dog will usually join in also." (2) A "tendency to conform, or to be like one's fellows. It is the passion to do as others do," usually more highly conscious than the first type, but largely without consciousness of purpose. (3) Rational imitation, copying the action of another, not merely for the sake of social conformity, nor yet because it satisfies some primitive impulse, but because it is in accord with some rational purpose to do so. That it may "be rightly understood," imitation is then discussed in relation to "suggestion" and "sympathy," all of which together are called mental induction. There is no general instinct of imitation, the reader of this book is warned; imitation is a method of expressing many instincts, especially gregarious impulses.[3]

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[2] Ellwood, C. A., *An Introduction to Social Psychology*, 1917, p. 101.

McDougall holds imitation to be "the prime condition of all collective mental life. I propose," he continues, "to reserve for another volume the detailed study of the collective mental processes."[4] Yet when this volume appears, presumably *The Group Mind* (1920), he makes no use of the concept of imitation; indeed, his index neither gives the word nor makes mention of Tarde or J. M. Baldwin, who have been so largely responsible for the application of the imitation view to the social sciences. He has evidently decided in the meantime that imitation is, after all, not so important in collective mental life. His position on imitation in the widely used and influential book, *Social Psychology*, is so well known that it need not be stated here. Imitation is defined and differentiated into five classes under the caption, "General Innate Tendencies." Very little use of the conception is then made in subsequent chapters of the book, with the exception of one chapter in which it receives direct attention. Even the excellent chapter on "The Growth of Self-Consciousness and of the Self-Regarding Sentiment," which certainly deals with socializing processes and factors makes very little use of imitation, despite the fact that the author is so obviously indebted to such writers as J. M.

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[3] *Ibid.*, pp. 224 to 229.

[4] McDougall, *Social Psychology*, 13th Ed., 1918, p. 333.

Baldwin. It is only at the end of the book, Chapter XV, "Imitation, Play, and Habit," that any considerable use is made of imitation, and here the term is used in the wide sense, following Tarde, "to cover all three processes (imitation, suggestion, and sympathy, as the author has previously defined these terms) as viewed from the side of the patient."[5] One feels that the chapter is distinctly inferior to earlier chapters in which the socializing process is considered, such, for example, as the one already cited; and that it offers no distinct contribution. It is probable that its omission would have offered no sense of incompleteness not now experienced in reading the book, except to a certain class of sociologists. Evidently McDougall's own practice discounts the use of the concept of imitation as generally defined in writings on social psychology.

A few illustrations of the use of imitation in abnormal psychology may be of interest. I quote from a writer of the New Nancy School. "A boy of twelve had from earliest childhood evinced a positive phobia of toads. Whenever he caught sight of one, his face grew pale, his back became arched, and he made convulsive movements with the forearms. This phobia had originated in imitation of his mother, who had similarly derived it imitatively from her mother. Ascending through the generations, the symptoms were more violent. The grandmother had a severe nervous paroxysm at the sight of a toad, falling convulsed to the ground. In her case, too, the trouble came by imitation. Her mother, in a deathbed delirium, witnessed by the daughter, had been affected with the hallucination that toads were crawling all over her body."[6] Here is a case in violent disregard of facts, explained on the basis of suggestion: "It has frequently been pointed out that bad habits are much more easily contracted than good ones. This should suffice, I think, to prove that in the former case suggestion is at work. For the difference is that in the case of the bad habits we usually wish to strive against them, and this, *as always happens with suggestion*, is an infallible method for engulfing us more hopelessly in the quicksand." "More or less unconscious actions, due to involuntary imitation, are of frequent occurrence." Heroic charges in the battlefield are cited in illustration. "In so far as imitation is not fully conscious and deliberate, it is invariably a manifestation of suggestion. The child, in most cases, has no idea why he chooses to play one game or another, but the idea is implanted in his mind by imitation. He does what he has seen others do, though he has sometimes forgotten having seen them." These statements are by a follower of Emile Coué, who has introduced a more dynamic view into the doctrine of suggestion, defining suggestion as the unconscious realization of an idea, yet we see how words are made to substitute for analyses and the careful ascertainment of facts.

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[5] *Ibid.*, p. 332.

[6] Baudouin, Charles, *Suggestion and Autosuggestion*, (Tr. by Eden and Cedar Paul), 1921. Quotations are from pages 72, 93, and 96, 97, respectively.

To the psychologist who comes into close relations with the individual from all standpoints and attempts to render an accurate account of his behavior whether in terms of stimulus-response relations or in terms of mental processes as introspectively obtained, the imitation doctrine does not seem adequate. To him it seems to be a far-fetched and wholesale generalization that has little relation to facts. If he attempts to modify the behavior of any individual on the principles of this doctrine he wonders how any one could take it seriously except in a general sense. There are many circumstances that would bring about similar actions of two or more individuals, uniformity of action. The uniformity of action among individuals may be due to any one, or to combinations, of the following conditions: (1) The individuals may have practically identical innate structures and may be stimulated by common stimuli. (2) They may find uniformity to some degree the most economical and time saving. (3) If one individual acts very differently from his fellows he may attract the attention of others and become embarrassed, self-conscious, or may receive disapproval and suffer disadvantages therefrom. (4) There may be obvious approval or friendship shown by others as a reward of copying their behavior, thus arousing one's instincts of comradeship so characteristic of small groups. (5) Different individuals may have successively come into, or been born into, the same social environment and each has taken on the *mores* and habits of the social group by a trial and error process and by actual instruction. (6) Social life requires common language and other symbols of thought and action, and any person of a group can get self-expression and self-assertion to any considerable degree only by the use of such understood language and symbols, however inadequate they may seem to him to be. The early stages of the acquirement of one's native language (spoken) are certainly characterized by trial and error learning, despite loose statements by theorists to the effect that language is acquired by imitation. This has been shown by a number of careful studies of infants. (7) The actions of others may call an individual's attention to certain things and conditions, stimulating and important to him, which he needs or is organically prepared to use but did not know were available, such as, the presence of food, of some toy, or of certain physical or moral dangers. The stimulus value of these things is increased by the actions of other members of the group. (8) The enthusiasm of individuals for certain kinds of behavior or specific kinds of activity is not great when they are alone or in very small groups, but may be greatly increased by the stimulation of enthusiasts or of specialists in certain lines when present. (9) Each individual may have for certain acts — such as yawning, smiling, giving vent to general activity of certain emotional kinds — an inherited special mechanism of such a nature that when one individual of a group performs certain acts, for whatever cause, these mechanisms are automatically stimulated in other individuals. (10) Different individuals may have acquired, by trial and error learning, mechanisms that work as do those for yawning, etc., which have been inherited. Finally, (11) Through the work of important and recognized individuals, certain kinds of work and recreation, certain manners and special activities may have acquired recognition and approval to the extent that a person finds it possible to elevate himself by doing these things, if he has the ability to do so.

There may be yet other conditions making for uniformity of behavior in social groups, but this list is sufficient for our present purpose. It is evident that to call all the uniformities due to the eleven circumstances here enumerated, imitation, indiscriminately, is to be satisfied with a lack of analysis that can do nothing but impede psychological progress. An examination of these eleven conditions making for uniformity in behavior, will make it clear that the responses in most cases are not copying responses, or imitation, at all, unless everything we do is imitation. Often too, a person looking for uniformity in behavior finds it among all the heterogeneity of action in the social world. He finds it by selected cases due to chance occurrence, due to the limitation of his attention to certain kinds of behavior for which he is especially looking and consequent exaggeration of what is really not very common. Ruckmick[7] has shown that lights flashing in a non-synchronous order to simulate the flashes of fireflies may be unwittingly interpreted or "perceived" as rhythmically synchronous, by observers in the laboratory.

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[7] Ruckmick, C. A., A Possible Interpretation of Synchronous Flashing of Fireflies, Ill. Acad. Sc., 1920, *13*, 109–122.

Uniformity in dress, for example, may be accounted for by (2), (3), and (11), of the conditions enumerated above; in manners, by (3), (4), (5), (6), and (11); in language, by (5) and (6), and in some respects by (11); in ceremonies and much of general religious behavior, by (3), (4), (5), (6), (8), and (11); uniformity in mob action and in other "social currents" (Ross), together with the rapid spread of excitement, by (7) and (8); in fashions (other than in dress), fads, new cults, etc., by (3), (4), (8), and (11); in the use of improved apparatus, implements and machines, methods of lighting, heating, transportation, etc., by (2), (7), and (11) chiefly, but also in part by (3) and (4). These uniformities are mainly the stock in trade of the imitation sociologists who see things in the large and from a distance. Only responses to condition (11) could with propriety be called imitative responses.

There remain, aside from special cases soon to be considered, the spread of certain functional diseases dealt with more particularly by physicians and alienists. These are often accounted for by (1), (2) in some respects, (7) and (1) combined, regarding certain supposed dangers as apprehended by those with neurotic constitutions, and (10); but usually, as in the case of hypnotic phenomena and certain other cases of suggestion, they need also, and often receive, special analysis. On hypnosis and suggestion in the narrow and more technical sense of the term, there are, of course, various views, which we cannot here attempt to evaluate. The position of the New Nancy School, represented by Emile Coué and his followers, which regards suggestion as the same as auto-suggestion, the subconscious realization of an ideal (*i. e.*, a form of self-expression, I take it), as well as the emphasis put by the Freudians on instinctive drives, are important instances of movements that tend to put away the older passive-reflex views favoring the wholesale application of the concept of imitation. Obviously much more research is desirable in these lines, as the methods thus far used in connection with these newer movements do not in certain respects merit the designation scientific, and therefore the results obtained toward the establishment of the interpretations are not convincing to those who do not already believe. That this statement is probably not unfair to these schools can be shown from the fact that the large body of psychologists using scientific methods common to the various sciences do not accept their methods and results today. The uncritical attitude of many of the Freudians, for instance, of accepting indiscriminately any result obtained by a member of the school and of defending it as a personal matter, makes it seem to the unbiased, or let us say disinterested, scientific mind more like a religious creed than a body of scientific facts. Nevertheless, it must be confessed that the Freudian movement has done much to displace the passive suggestion-psychology in the field of the abnormal.

If now we seek to define imitation more specifically and to determine its limits, we shall have to confine our attention chiefly to acts coming under the conditions of stimulation (9), (10), and (11), as stated in a foregoing paragraph. By imitation we shall mean the direct arousal of definite acts in one individual by their performance by another individual, usually, but not necessarily, of the same species. The important thing to stress in the definition is that the *specific act* by the one individual is the stimulus for the imitating act which closely copies it, for we wish to exclude the many gregarious acts which are clearly not imitative in the technical sense of the term, and would come under our cases (1), (3), (4), (6), (7), and (8). Since the behavior of one individual often has important biological significance for others, it is obvious that in phylogenetic history instinctive interest in fellows would have survival value as an original trait. Such interest is, however, not usually of the sort that centers attention on the specific acts performed. One animal, for example, by picking up food, or by attempting to get food, either by pecking or by scratching more or less at random, or by running about in play, is likely to arouse a fellow, not to duplicate these acts specifically, but to behavior resembling that of the stimulating animal in a general way; it may, indeed arouse it to general food-hunting or play activity, and since the structures of the two animals are alike the acts are apt to take on the form of imitation very closely. Yet this is hardly a case of imitation. The one animal has only increased the excitability of the other (lowered its stimulus threshold) to certain classes of stimuli; but its specific acts, as experiments show, are usually not copied. Thus if two animals are separated from their fellows the one may be aroused to greater uneasiness and make ceaseless efforts to return if its mate in confinement escapes and leaves it alone, though it may not duplicate the specific acts of the other which enabled it to escape, such as turning a button, pushing a bar, or walking up an inclined plane. This is clearly, then, only a case of the manifestation of gregariousness, even though the increased activity of the remaining animal leads by trial and error to immediate escape. Indeed, it has been shown in carefully controlled experiments on various types of animals that more specific duplication than this of an act of one (trained) animal by another is a very rare occurrence, even though the trained animal repeats the performance before the untrained one; and the few instances of exact copying that have been obtained are accounted for by most investigators either by accidental success of random acts somewhat limited in their field of exploration by the escape of the trained animal, or by the heightened receptivity to certain stimuli (direction of attention) that has been effected in the untrained animal. Similar results are to be expected from experiments on children as less carefully controlled observation indicates, though in the case of humans we need more investigation. That some acts are rather directly copied, however, cannot be denied, and in these few cases specific innate mechanisms seem to be provided by which the occurrence of the act in one individual tends directly to set the act off in another (our case 9). Yawning (man and some animals), smiling, screaming, and laughing in the case of man, and looking curiously at and examining certain objects, running in certain directions, flying when other members of the flock fly, and a few other such acts of a specific sort may thus be reproduced without training; but even in these cases, which are of little importance both in human and in animal behavior, the tendency is not so strong, nor are the acts so invariable, as some writers have assumed of imitative acts. In general, only those acts for which there is an adequate neural mechanism between stimulated organ and responding organ that can be set off by the specific act to be copied, can thus be copied imitatively; and certainly such special mechanisms are not numerous even in man. The uncritical person who uses imitation so freely to explain social behavior, or the transmission of certain functional diseases, does not stop to consider the sort of mechanism that would be necessary for such imitation. The case quoted from Baudouin on the copying of responses of fear of a toad are certainly the results of some training and are brought out in neuropathic constitutions. Inquiry into the reason of decreasing intensity with successive generations, the reverse of what would be expected in purely imitative acts, is not made.

It is true that learned acts, or acquired co-ordinations, may often be seen to copy somewhat closely the same acts in other persons. We have already given various conditions leading to their arousal. It is desirable to examine the stimulating conditions carefully in all cases of this kind, the name by which we designate the acts being of much less importance than is such an analysis. Thorndike,[8] Woodworth,[9] Watson,[10] and E. M. Smith[11] have so thoroughly criticized the imitation doctrine in the light of recent experiments that there is no call for further criticism here. The effects of these criticisms are already noticeable in the literature of social behavior. In general, we may say that one individual is apt to reproduce the act of another only when (1) the act has special importance to the individual, such as calling attention to needs, dangers, lines of social approval, etc., and (2) when the neural pathways involved in the performance of the act are complete and in readiness to carry the impulse from the receptors excited to the effectors brought into play, the readiness being due either to inherited structures or to appropriate modification of inherited mechanisms by the trial and error process of adjustment.

The greatest error of the imitation school, so far as general point of view is concerned, is that of regarding the individual as passive and undiscriminative to an unreal extent, and therefore directed in group or social activities largely by the actions momentarily perceived in others. Contrary to this view, the individual is essentially an organization of biological processes, the different functional divisions of which are perpetually interacting upon and mutually stimulating one another, as well as receiving stimuli from the environment. This has naturally not been wholly overlooked by the imitation school, but they have usually neglected the importance of this urge from within the individual, these larger determining tendencies acquired both through heredity and by the general consistency of the environment in the ontogenetic history. Self-assertion is probably not a specific instinct as McDougall, for instance, has assumed, but is a general characteristic of the impulsions of the life processes, which are maintained only by keeping up constant relations with the external world. All of the various situations that confront one serve in a way to modify these processes, to direct them, but the individual is not so reflexly susceptible to modification by them as has been assumed. They may check activity at one point and facilitate it at another; but impediments and blocks to activity, whether by other organisms or by inorganic conditions, if they do not actually annihilate the organism, often tend only to increase the urge from within it, to enhance the relative importance of the environment of the distant past which has, somehow in the phylogenetic history, determined the hereditary structure and the general character of the organism.

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[8] Thorndike, E. L., *Original Nature of Man*, 1913, ch. 8.

[9] Woodworth, R. S., *Dynamic Psychology*, 1918, ch. 8.

[10] Watson, J. B., *Behavior, An Introduction to Comparative Psychology*, 1914, ch. 8.

[11] Smith, E. M., *Mind in Animals*, 1915, ch. 6.

It is an error to suppose that these adjustment processes in the organism are primarily conscious and purposive. Experiments have shown that even in higher forms of learning, many significant and determining circumstances are frequently overlooked by the individual, even though they influence the learning in the manner that they would if the principles involving their use were explicitly conscious.[12] Such unconscious and semi-conscious adjustments, by which each individual becomes more or less satisfactorily accommodated to his environment, is certainly frequent in our unreflective behavior, such as, favoring and accepting the views and prejudices of those persons who treat us kindly and from whom we derive certain benefits and aids.

In the processes of social adjustment stresses and anxieties arise, due to the fact that the individual is not passive and wholly amenable to the influence of immediate stimuli, just as one may get "turned round" in a new place or city and may struggle to get back to one's normal ego-centric orientation. Ambitions and self-projections, or the more permanent and pronounced tendencies in one's development, arise out of the give-and-take of social life; and the failure of these ambitions is sometimes almost actual self-destruction, depending on the extent to which the ideals have been seriously entertained. As life gets to higher levels the satisfaction of mere hunger and of the primal biological impulses becomes of secondary importance to the freedom with which one can work out and realize the more far-reaching impulses to social expression, and minor conflicts become more prolonged and therefore more nerve-racking. The direction of development is more completely determined from within by inheritance and by the larger and more general consistency of the environment, and there is less tendency to yield to temporary pressure. Responses become more and more delayed and the effects of the several successive stimuli are prolonged so that all may work together simultaneously toward behavior that is more and more long-ranged and consistent with the larger circumstances. Various weaknesses thus show themselves more consistently in the self-conscious processes and become compensated for by appropriate adjustments and attitudes; and if contact with the social environment is not constant and natural, and competition is not within the easy range of one's powers, abnormal behavior arises because of failure to try out at every step one's projecting and determining impulses and ideas. Fears and anxieties result and further impede normal behavior, and complications increase.

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[12] Peterson, Jos., Experiments in Rational Learning, *Psychol. Rev.*, 1918, *25*, 443-467; and Backward Elimination of Errors in Mental Maze Learning, *J. Exper. Psychol.*, 1920, *3*, 257–280.

It is obvious that this is a dynamic process of carefully, though not necessarily consciously, balancing and evaluating opposing impulses and inducements, one that cannot be understood or described in terms of any general formula that either the imitation or the association doctrine supplies. The overlapping of successive stimulus-effects is of great importance, and it is generally overlooked by the advocates of these passive conceptions which make behavior too much dependent upon the contingencies of immediate circumstances. It is well to avoid assumptions of spontaneity which frequently go with such terms as attention, will, purpose, perception of meaning or of ends. It is true that in the higher ranges of this adjustment process these mental states are important; but we have no convincing evidence that the conscious aspects of them are forces in the popular sense of that term, that they contribute anything unique to the process by virtue of their being conscious. Not that they are epi-phenomena apart from the biological process; they are probably but aspects of it at high tension. Mind is consequently not to be regarded as a directing factor in behavior in the sense of something spontaneous, sometimes assumed, but rather as an evolving mechanism whereby past experience can play its part with present conditions in the direction of the detached and locomotive organism. As one biologist has put it: "Just as the various steps in the metabolic process are dependent on those which preceded them, so when an organism becomes differentiated into parts, when the main process becomes subdivided into subsidiary ones, these react on each other. What is internal to the whole becomes external to the part. An external stimulus may set up an internal metabolic change, giving rise to a response whose extent and nature depend on the structure of the mechanism and its state when stimulated, that is to say, on the effect of previous responses. Such a response may act as an internal stimulus giving rise to further response, which may modify the first, and so on. Parts thus become marvelously fitted to set going, inhibit, or regulate each other's actions; and thus arises that power of individual adaptation, or self-regulation, so characteristic of living organisms."[13]

Thus interacting parts in the higher conscious processes come to have the force or feeling of spontaneous characters, because they may so inhibit tendencies induced by present environment. Parts of the general process may become detached, as in the case of automatic writing, for instance, that the subject refers to them as controlling agencies outside of himself. "They make me" do this and that, we are told. Why these part processes are conscious as we find them, or self-conscious normally when all are taken together, and just what this implies as to the ultimate nature of reality, no one knows.

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[13] Goodrich, Edwin S., *Science*, N. S., 1921, liv, 532.

It is in the interactions of these part processes, as stimulated and nourished by present environment, that each impulse is checked, modified, or worked over into what may be called the *completest* or the most consistent response, from the present standpoint of the individual.[14] To each individual the identical social and physical environment, objectively speaking, confronted at any point by all is peculiar; in one person it stimulates a response vastly different from that aroused in another, because to each with a different heredity and a different past it represents different possibilities and dangers. Though a considerable body of facts about the nervous system is now available, we know very little yet of the nervous mechanisms and their mode of operation by which the effects of the various stimuli are thus held over for a time — as we know introspectively they are, as well as by objective experiment — and reorganized into unitary responses toward greater self-expression. This is an attractive field for future conquests, when we get over being satisfied with terms and conceptions that imply either too much passive receptivity to present stimuli and too much indeterminateness in the individual, on the one hand, or too great detachment from the world of causal relations on the other.

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[14] Cf. Peterson, Jos., Completeness of Response as an Explanation Principle in Learning, *Psychol. Rev.*, 1916, *23*, 153–162.

THE ETIOLOGY OF PHOBIAS

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CASE I

A YOUNG woman of good heredity developed during her childhood a severe phobia of running water. She was unable to give any explanation of her disorder, which persisted without noticeable improvement from approximately her seventh to her twentieth year. The general nature of the disturbance is readily shown.

Her fear reaction to splashing sounds was especially intense. For instance, it was necessary for her to be in a distant part of the house when the bathtub was being filled for her bath and, during the early years, it often required three members of the family to give the bath. She always struggled violently and screamed. During one school session a drinking fountain stood in the hall outside of her classroom. If the sound of children drinking was audible, she became very frightened, actually fainting on one occasion. When she rode on railroad trains, it was necessary to keep the window curtain down so that the streams over which the train passed might not be seen.

During her twentieth year an aunt, Mrs. G., came to visit at her home. This lady had not seen her niece in thirteen years. She was met at the station by the mother of the girl, who told her of the daughter's condition. On arrival at the house, she met the girl and her first words were "I have never told." This served to provoke a recall of the following episode.

The mother, the aunt, and the little girl — she was then seven years old — had gone on a picnic. Late in the afternoon the mother decided to return home but the child insisted that she be permitted to stay longer with her aunt. The mother agreed to this on the child's promise to be obedient to the aunt. The two then went into the woods for a walk and the girl, disobeying her aunt's instructions, ran off alone. The aunt followed, and after a search, found the child lying wedged among the rocks of a small stream with a water-fall pouring down over her head. She was screaming with terror. They proceeded to a farm house where the wet clothes were dried. The child expressed great fear that her mother would learn of her disobedience, but the aunt reassured her with the promise, "I will never tell." They returned home and the aunt left the house next morning without seeing her niece. The child was thus left with no one in whom she could confide and had a period of anxiousness. The phobia developed shortly after this.

After recalling this experience of her childhood, the young woman found it possible to approach running water without discomfort. And gradually the special adjustments, which her phobia had necessitated, disappeared.

CASE II

A man suffered from a phobia of being grasped from behind, the disturbance appearing early in childhood and persisting to his fifty-fifth year. When walking on the street he was under a compulsion to look back over his shoulder at intervals to see if he was closely followed. In social gatherings he arranged to have his chair against the wall. It was impossible for him to enter crowded places or to attend the theater.

In his fifty-fifth year he returned to the town in which he had spent his childhood. After inspecting his old home, he went to the corner grocery and found that his old boyhood friend was still behind the counter. He introduced himself and they began to reminisce. Finally the grocerman said this, "I want to tell you something that occurred when you were a boy. You used to go by this store on errands, and when you passed you often took a handful of peanuts from the stand in front. One day I saw you coming and hid behind a barrel. Just as you put your hand in the pile of peanuts, I jumped out and grabbed you from behind. You screamed and fell fainting on the sidewalk."

The episode was remembered and the phobia, after a period of readjustment, disappeared.

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The following features common to the two cases seem significant. In fact, the claustrophobia described by Rivers in his "Instinct and the Unconscious" and Prince's "Bell-tower Case" are capable of the same analysis.

1. The disturbance dates from a traumatic episode to which the patient reacted with intense fear.
2. The episode involves some forbidden action on the part of the patient which prevents discussion of the experience with parents

or others who might give reassurance. This element of guilt and the unpleasant character of the experience presumably cause "protective forgetting," or repression.

3. The symptoms disappear when recall is effected. No sublimation, transference, or treatment by suggestion was required. However, in the "Bell-tower Case" it was necessary to convince the patient that she was not morally responsible for her mother's death.

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Freud has formulated an explanation of phobias. His view is set forth in "A General Introduction to Psychoanalysis." He finds that phobias arise in individuals who have permitted their libido, or sex-energy, to find outlet in some forbidden practice. With the suppression of this practice through social influence, the sex-energy is transformed into free-floating fear. Later this fear becomes attached to certain features of the environment. It is suggested that the stimulus to which the phobia attaches may be subtly related to the original sex-interest of the individual. Thus perhaps, a fear of running-water represents an underlying urinary eroticism.

It seems clear that Freud's view is not required for explanation or treatment of the two cases presented. Neither seems to involve sex factors. However, it is easy to see how a sex act would, in many cases, supply the element of guilt which is found in the traumatic episode.

AN INVESTIGATION OF THE SEX, RELATIONSHIP, MARRIAGE, DELINQUENCY AND TRUANCY OF CHILDREN ASSIGNED TO SPECIAL PUBLIC SCHOOL CLASSES

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(EXCERPT FROM THE WRITER'S FINAL REPORT TO THE BOARD, FILED IN JUNE, 1921.)

PRIOR to the establishment of the Psycho-Educational Clinic in September, 1914, there were no records kept in any central Office of the number of pupils who were assigned to, and who actually entered, the "Special Schools for Individual Instruction" which were established in January, 1908, for "mentally defective" children. In an effort to secure a complete census of the pupils who had been enrolled in these schools, and certain facts of social significance regarding them, a questionnaire was sent to the teachers in the schools in December, 1920, asking for the following information:

1. Names of all boys and girls enrolled in the special schools from the date of organization to June, 1920, inclusive.
2. Date of withdrawal.
3. Subsequent history (employment, delinquency, etc.)
4. Names of brothers and sisters attending the special schools.
5. Number of other children in the family.
6. Names of children who, in your judgment, should have been, or who should be committed to an institution: (a) because too intellectually defective to make a living; (b) because of both lack of ability to make a living and lack of adequate home support; (c) because of anti-social tendencies and lack of ability to make a living; (d) because of anti-social tendencies, although possessing enough ability to make a living; and (e) because of other considerations.

Except in the case of two schools one or more of the teachers had served continuously in the same school from the time it was established. Thus at least one teacher knew intimately every child who had been in attendance for any length of time in these schools, while the large majority of the teachers knew almost all of the pupils who had been enrolled in their schools. The teachers who were in the two schools referred to during the first six years were no longer connected with those schools. All the registers were available for reference except for two schools, which were discontinued in 1914 and 1917. The teachers and attendants formerly connected with these two schools reconstructed the attendance rolls as accurately as they were able to do from memory. It is evident that some of the data called for in the questionnaire could not be supplied with absolute accuracy and completeness under the methods employed in the investigation. An absolutely accurate history of the after-careers of the children would have required a prolonged investigation by competent field investigators. The clinic did not have available the services of such investigators. No phase of the study of pupils assigned to special schools is more important than the thorough investigation of their after-histories. Public school clinics should be provided with visiting teachers or social workers who should assist the pupils discharged from special classes to obtain positions adapted to their limitations, who should aid parents in properly placing, protecting and controlling their unfortunate children, and who should compile accurate after-career records. In comparing the returns which were received from the different schools it was evident that many teachers had carefully followed the careers of their former pupils, while others had done little follow-up work.

TOTAL REGISTRATION AND PROPORTION OF SEXES

The total number of different pupils reported as having been enrolled in all the special schools up to June, 1920, was 1969, of whom 205 were colored (136 boys and 69 girls). The true number is slightly larger, for, since the data were compiled, we have discovered 12 additional names, 8 boys and 4 girls, in one of the abandoned schools in which the registration book had not been preserved. However, of the 1969, 1350, or 68.5 per cent were boys, and 619 girls. Since the clinic was established in September, 1914, the percentages of boys enrolled in the special schools have been as follows for each successive year: 71, 70, 70, 68, 68, 67 and 64. There has been a slight decrease in the proportion of boys during the four years in which the clinic has selected, without prejudice, the vast majority of the cases for examination on the basis of the child's mental and educational deficiencies as reported on a prepared form (13-H) by the school staff on the basis of explicit instructions.[1] A very slight decrease in the proportion of boys examined in the clinic is also apparent during the last four years, the percentages being as follows for each school year since 1914–15: 74.4, 69.2, 71.1, 70.4, 70.2, 69.9 and 64. In the school year 1915–1916 we made a special examination of the pupils who were rated as the most retarded in a census embracing all pupils in the elementary schools who were two or more years backward pedagogically. Of the pupils thus examined 70 per cent were boys. Last spring (1920) we made a purely objective selection for individual examinations of pupils in 13 schools who made the lowest scores in a group test of intelligence.[2] Sixty-seven per cent of the pupils thus selected proved to be boys. Thus every method so far used in the St. Louis schools has given a distinctly larger percentage of subnormals and mental defectives among the boys. Studies in other school systems have almost always given similar results, while the registers in state institutions for the feeble-minded have until recently contained more males than females. In the latest published enumeration, January 1, 1920, of the inmates in the institutions of the country for mental defectives, the relation has been reversed, the number of males being 20,123 as compared with 20,396 females.[3] That the number of females sent to institutions has been increasing for several years is due primarily, we believe, to the vigorous and persistent demands that preference be given in commitments to mentally defective women of child-bearing age. The past seven years of examining, however, justify the prediction that the St. Louis schools will have to continue to make provision in the future for more mentally defective boys than mentally defective girls.

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[1] The plan is described in The Problems Confronting a Psycho-Educational Clinic in a Large Municipality, Mental Hygiene, 1920, pp. 103–136, and, in greater detail, in the report of the psycho-educational clinic in the Report of the Board of Education of the City of St. Louis for 1917–18, p. 75f.

BROTHERS AND SISTERS IN THE SPECIAL SCHOOLS

There had been 157 siblings in the special schools up to June, 1920, which is 7.9 per cent of the entire enrollment. These siblings came from 73 families, an average of 2.14 children per family. Sixty-four families furnished two siblings each (two brothers each from 23 families, a brother and sister each from 33 families, and two sisters each from eight families), 7 families furnished 3 siblings each (3 brothers from one family, 2 brothers and one sister each from 2 families, and 1 brother and 2 sisters each from 4 families), while 2 families furnished

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[2] A Comparison of Three Methods for Making the Initial Selection of Presumptive Mental Defectives, School and Society, 1921, 31f.

[3] Pollock, Horatio M., and Furbush, Edith M., Patients with Mental Disease, Mental Defect, Epilepsy, Alcoholism and Drug Addiction in Institutions in the United States, January 1, 1920. Mental Hygiene, 1921, 139f.

4 siblings each (3 brothers and a sister from one family, and 4 brothers from another family). The questionnaire asked for the number of other children in the family. The teachers interpreted this to refer only to the families sending two or more pupils to the special schools, and were able to give information regarding 62 of these families. Nineteen did not have any other children, 6 families had one other child, 7 had two others, 15 three others, 6 four others, 6 five others, and one each 6, 9 and 10 others. The average number of other children in these families was 2.32.

We had no means of ascertaining how many siblings or relatives of the 1969 special school children had been, or were, or should have been in ungraded classes because of backwardness, or how many mentally defective siblings were not placed in the special schools. Nevertheless it is surprising, to say the least, that only about 8 per cent of the children in the St. Louis special schools during a period of over 12 years were siblings, in view of the belief that feeble-mindedness "runs in families" and the belief that the vast majority of the feeble-minded are produced by a cacogenic heredity (85 per cent according to Tredgold, about 65 per cent according to Goddard), and in view of the fact that only about 1160 mental defectives have been sent from all parts of the state to the state colony for the feeble-minded since it was opened in 1901, while only an insignificant number of the children who have been in the special schools during all these years have been placed in custody.

In other words, it is found that, with the feeble-minded at large in the community without any legal restraint of any kind,[4] only a small percentage of the special school children have been brothers and sisters, while only an insignificant number of the parents who have brought children to the psycho-educational clinic during the past seven years have been feeble-minded, as we have previously pointed out.[5] Fernald has concluded that "The average family chart of the patients admitted to the Massachusetts School for the Feeble-minded is not a 'black' chart. . . . The average defective coming to the institution is not the child of a feeble-minded parent or parents." The same conclusion seems to be justified regarding the children sent to the special schools in St. Louis and regarding their parents. I have been unable from the facts obtained to establish a definite neuropathic heredity in the majority of the cases examined. Nor has it been possible in the vast majority of the cases to ascribe the mental deficiency to physical defects. The influence of physical defects in the causation of mental subnormality, and the influence of the correction of physical defects upon the mitigation or cure of mental subnormality, has been greatly overrated. This conclusion is based on the results of the physical findings on thousands of cases, and on extensive follow-up work on many hundreds of treated cases which have not been restored to mental normality by the physical treatment or even improved appreciably in mental level by such treatment. L. Pierce Clark[6] evidently has reached the same conclusion:

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[4] A law to prevent the marriage of the feeble-minded, epileptic and insane drawn by the writer was enacted by the Missouri legislature this year.

[5] Mental Hygiene, 1920, p. 103f.

"While there are still chances for a wider and more exact extension of endocrinology in mental defects, as yet it has not materially altered the general statement made that once definite feeble-mindedness is diagnosed in a child, the condition which remains is hopeless as far as recovery or cure is concerned. Many of us, still optimistic, have searched for that slightest grade, or borderline of mental retardation which by intensive and careful training (treatment) plus specific medical therapy may be overcome. The type of mental retardation which most nearly comes within this optimistic viewpoint is that now known as the normal dull person. But probably our old therapeutic hope to cure or remove even this slight defect will meet with as great a disappointment as in the treatment of the pronouncedly feeble-minded. For even in the normal dull person, the successful outcome in handling such mental defect is by the old, well proven procedure of education and better adaptation of the individual to his life purposes at the level of his innate capacity." The feeble-minded and the near-feeble-minded suffer from a lack of development of the brain or a defective organization of the cerebral neurones which cannot be overcome by physical treatment, but which can be mitigated, sometimes considerably, by educational treatment. The fundamental treatment of the feeble-minded remains, as always, educational. The only conclusion I have felt warranted in drawing after reviewing for over a decade the case data on many thousands of exceptional children is that the etiology of mental deficiency is very complex, instead of being simple, and that many cases occur which, appear to be pure accidents or "sports" of nature or the results of the biological tendency toward variation, but which may be the result of toxic substances acting upon the parental germ plasm, or upon the embryo, or upon the brain of the infant or young child.[7]

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[6] A Study of Some Mental Defects in the Normal Dull Adolescent, Ungraded, 1921, p. 97f.

If the results obtained at Waverly and St. Louis are correct the theories of the causation of feeble-mindedness may have to be revised, while the faith, held almost universally, in the efficacy of sterilization and colonization as measures for the eradication of feeble-mindedness will be shaken. In spite of the fact that there have never been any provisions for colonizing but an insignificant number of the feeble-minded who have lived in St. Louis, we have not found that more than about one-half per cent of the elementary children in the St. Louis public schools could with certainty be diagnosed as feeble-minded in the legal connotation of the term. Some school systems claim they have a much larger ratio of feeble-minded children (e. g., 2 per cent or 3 per cent or even 4 per cent), although located in states which have colonized many times as many mental defectives as Missouri in proportion to population.

Data on the marriage of children who have been in the special schools are also apropos in this connection. Fifty-two of the children who have left the special schools have been married of whom 40 were girls. The teachers had no information regarding the progeny of these marriages except in the case of 11 children from 8 matings. Two of these were judged to possess high mentality, 7 to have normal mentality, and 2 to be dull. These judgments were based merely on the impressions which the children made when spoken to and observed by the teachers. The youth of some of the children made it difficult to form any judgment regarding their intelligence. But, so far as judged by the teachers, not over two of these children were subnormal.

It should not be inferred from the above discussion that we do not regard it as important to investigate children from every point of view before a diagnosis of mental deficiency is reached. If the physical examination yields data of minor value from the standpoint of the mental diagnosis, it frequently yields significant facts from the standpoint of physical care, treatment and training.

ESTIMATED NUMBER OF INSTITUTIONAL CASES

The doctrine has been widely proclaimed that all feeble-minded children should be made wards of the state, and even placed in a custodial institution or a colony. Some, in harmony with this belief, have advocated the closing of the public schools to mental defectives, who, they say, should be trained in state residential institutions and later transferred to colonies for permanent employment. It has been found in recent years, however, that as a result of these convictions, many mental defectives (sic) have been sent to institutions who have been found to be quite able to support themselves, in fact, they have proved more efficient than some of the employees in the institutions. They have also made good when released from the institution. In consequence of these findings, many are now advocating the discharging, paroling or placing out in the community under supervision all such "high grade mental defectives," especially the men. This movement is to be commended because under the legally accepted definition of feeble-mindedness in England, and in many of the American states which have adopted the English definition, persons who have sufficient intelligence to lead an independent existence cannot be classified as feeble-minded. It is undoubted that many so-called high grade mental defectives sent to institutions are dull normals who may have been made socially dependent by the inevitable process of institutionalization that goes with colony life.

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[7] The stereotyped practice of referring to the feeble-minded as "mentally sick," "ill," "diseased," and as "patients" should be abandoned. It would be absurd to refer to the children in our special schools as mentally sick, because the characterization is not true, as every one knows who has intimately associated with them. But it is just as absurd to regard the feeble-minded inmates in institutions as sick patients. The feeble-minded as a class are healthy and fairly robust, but have defects and become sick just as normal persons do.

It will be interesting to get the estimate of the teachers regarding the number of children who have been in the St. Louis special schools who should have been, or who should be, committed to an institution. Only 326, or 16.5 per cent, of all the pupils were regarded by the teachers as institutional cases, Table 1. Thirty-six of these were still in school.

TABLE 1

NUMBER OF CHILDREN WHO, IN THE JUDGMENT OF THE TEACHERS, SHOULD HAVE BEEN, OR SHOULD BE, CONFINED IN INSTITUTIONS, FOR THE REASONS INDICATED

	BOYS	GIRLS	BOTH SEXES
Because too intellectually defective to make a living...	118	91	209
Because of insufficient ability to make a living and lack of adequate home support...........	27	9	36
Because of anti-social tendencies and insufficient ability to make a living..................................	16	6	22
Because of anti-social tendencies although possessing enough ability to make a living.....................	33	3	36
For reasons not specified..................................	14	9	23
	208	118	326

Almost two-thirds of the number were judged to need institutional care because of extreme defect of intelligence, while the number judged to have sufficient ability to make a living but to be anti-social and therefore in need of institutional care constitutes only 11 per cent of the number. The total number with anti-social proclivities constitutes about 18 per cent of all the cases estimated to need institutional care, and only 2.9 per cent of the total registration. The estimates include a slightly larger proportion of girls than boys (19 per cent versus 15.4 per cent) and a larger proportion among the colored than among the white (39, or 19 per cent of the colored, being 18, or 13.2 per cent of the boys, and 21, or 30.4 per cent of the girls). Institutional cases were reported from all schools, but three schools reported unusually small numbers.

These estimates on the part of the teachers, would, no doubt, be regarded by many as extremely conservative. It should be remembered, however, that during the early history of the special schools many children were assigned who were not feeble-minded, a practice still widely prevalent in many school systems. Nevertheless, it is surprising to find that the estimated number of institutional cases makes an average of less than 30 per year since the schools were opened.

The teachers' conservative estimate may have been influenced by the favorable delinquency record of the children.

DELINQUENTS

The number of offenders sentenced to institutions, or having a known delinquent record at the time of the report, Table 2, amounts to 65, or 3.3 per cent of all the pupils enrolled, the proportion being 3.4 per cent for the boys and 2.9 per cent for the girls. The number includes 10 colored boys, which is 7.3 per cent of the colored boys, and 4.8 per cent of all the colored children, no colored girls being reported. The most frequent offense committed by the girls was immorality and by the boys theft. Only one pupil who has been in attendance in the special schools has, so far as known, been accused of murder. But the charge was not sustained in court. The boy, who was 22 at the time of the crime, had reached about IV–4 at the time he left the special school, and was considered to grade above the level of feeble-mindedness. There is little doubt that the delinquency record as reported is incomplete, because the teachers did not know what had become of 436 of the children, nor could they obtain the complete records of all of the others. Undoubtedly some of the 17 children confined in the ward for the feeble-minded in the city sanitarium should have been classed as delinquents. Two schools did not report any delinquents, while one reported 17, two 8 each, and two 6 each. Nevertheless the annual records of withdrawals from the special schools which have been kept since the establishment of the clinic in September, 1914, and which are accurate, show that only 23 children (19 boys and 4 girls) were withdrawn from the special schools because they had been committed to an institution by the court on account of conduct disorders. This constitutes only 4 per cent of those withdrawn (566). Moreover, in the survey made by the National Committee for Mental Hygiene in the fall of 1920 of the boys in the city industrial school only 10 or 5.4 per cent of the 186 examined were diagnosed as feeble-minded, and only 21 or 11.3 per cent as borderline. Of these 31 only 4 had been in a special school of whom only two were diagnosed as feeble-minded by the surveyor.

TABLE 2

RECORD OF 1969 CHILDREN ASSIGNED TO THE ST. LOUIS SCHOOLS FOR INDIVIDUAL INSTRUCTION

	BOYS	GIRLS	BOTH SEXES
At home[1]	27	58	85
Sent to homes[2]	6	3	9
In orphanages	5	2	7
Ward, Board of Children's Guardians	2	1	3
In a home for Newsboys	2	0	2
Moved to country	27	7	34
Total	69	71	140
Left for other schools: —			
Rankin Trade School	5	0	5
Graded or Ungraded classes in the elementary schools[3]	79	24	103
Parochial Schools[4]	76	53	129
Private Schools[5]	8	2	10
County Schools	2	0	2
Gallaudet (school for deaf and speech defectives)	3	2	5
Private school for deaf and speech defectives	0	3	3
School for the blind	1	0	1
Total	174	84	258
In ward for feeble-minded in City Sanitarium	10	7	17
In state colony for the feeble-minded	2	1	3
Total	12	8	20

Delinquency Cases:—			
In city industrial school	27	1	28
In city jail	2	0	2
In state reformatories	6	1	7
In a convent	0	8	8
In some institution	0	1	1
In House of Detention	2	0	2
Ward of Court	5	3	8
Ran away	3	1	4
Delinquent record at time of report but not under arrest	2	3	5
Total	47	18	65
Employment record:—			
Doing nothing	23	0	23
Working, but type of employment unknown	246	53	299
Drivers			
Of Wagons	25	0	25
Of Automobiles	4	0	4
Newsboys	10	0	10
Messenger boys, W. U.	8	0	8
Bell boy	1	0	1
Errand (3) or delivery (1) boys	4	0	4
Painters	2	0	2
Carpenter	1	0	1
Car track repairers	2	0	2
Fruit vendors	2	0	2
Maids, 2 in a hospital	0	5	5
In stores of some kind	5	5	10
In grocery	8	0	8
In bakery	5	0	5
In drug store	1	1	2
In candy store	0	2	2
In butcher shop	2	0	2
In vegetable commission house	1	0	1
In restaurant	0	1	1
In saloon	1	0	1
In picture show	1	0	1
In millinery shop	0	2	2
In hair dressing parlor	0	1	1
In tailor shop	1	0	1
In dyeing establishment	0	1	1
In laundry	0	1	1
Sewing	0	3	3
In printery	0	1	1
In stone yard	1	0	1
Type of factory in which employed:—			
Not specified	5	18	23
Shoe	17	1	18
Box	12	1	13
Stove	8	0	8

Tobacco	0	5	5
Cooperage	4	0	4
Macaroni	3	0	3
Brewery	3	0	3
Car shop	3	0	3
Foundry	2	0	2
Electric Supplies	2	0	2
Screws	1	0	1
Buggies	1	0	1
Brass (moulder)	1	0	1
Shovels	1	0	1
Baskets	1	0	1
Bags	1	0	1
Hemp	1	0	1
Furniture	1	0	1
Trunks	2	0	2
Coffins	1	0	1
Pipes	1	0	1
Soap	1	0	1
Shirt	1	1	2
Tile	1	0	1
Total	74	26	100
In Salvation Army	0	1	1
In army[6]	12	0	12
In navy	5	0	5
Married	12	40	52
Dead	36[7]	11	47
Eliminated from school, of whom nothing was known[8]	23	17	40
No information	165	89	254
Left city, whereabouts unknown[9]	90	52	142

These facts must give pause for thought, more especially because only 20 of these 1969 children are known to have been committed to institutions as feeble-minded. Much has been said in speech and writing during the last decade about the criminality and viciousness of the feeble-minded. The conviction has become fixed that all mental defectives are potential delinquents and that most criminals are, in point of fact, mental defectives. In many of the surveys which have been made from 50 to 85 per cent of juvenile court, jail, reformatory and penitentiary cases have been classed as feeble-minded. What

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[1] Of whom at least 14 were sick. Most of these children were probably rendering some service in the home. [2] Some because of illness, others for reasons unknown to respondent. [3] Seventy-five were transferred during the first six years before the clinic was established. Nineteen of the 28 transferred during the last six years were transferred during the first year of the clinic. [4] Fifty-nine since the clinic was established. [5] Eight since the clinic was established. [6] One known to have deserted and one to have been discharged. [7] Two boys run over by automobiles. One boy committed suicide. [8] Most of these because of low mentality; 21 by the clinic, 13 during the first year of the clinic. [9] The remaining 400 children were still in the special schools.

is the explanation of the discrepancy between these claims and the findings in this investigation?[8] We would suggest two possibilities:

First, the value of the training received in the special schools as a corrective of anti-social conduct. This, undeniably, is one factor. The special school training has developed in the defectives habits of industry, application, thrift, honesty, and correct modes of social response. It has socialized and stabilized the child. It has developed a desire for engaging in, and skill in the execution of, many forms of manumental work. The value of the training may, perhaps, be judged by the truancy record from September, 1918 to April, 1921. There were only 36 cases of truancy in almost 3 years, or 4.5 per cent of the 787 pupils enrolled, 32 being boys (6.1 per cent) and 4 girls (1.5 per cent). The total days of truancy amounted to 408 days, or an average of 11.3 days per truant, but one boy was responsible for 113 days, one for 65, one for 46, one for 40, and one for 27. It is evident that we have had a few pupils in the special schools who correspond to the classical type of the unstable, excitable, truant, irresponsible mental defective. Without the notorious cases the average amount of truancy during almost 3 years is 3.7 days per truant.

Second, the picture of the ordinary feeble-minded child as potentially, aggressively and viciously criminal, always ready to commit assault, rob and slay, has been overdrawn. The writer well remembers the expressions of incredulity evoked in a class of teachers with years of intimate daily experience in the training of the feeble-minded, when, in the fall of 1914, this picture of the feeble-minded was presented to them in the words of a well-known writer. But this picture, which has almost been made a classic by the discussions of the last decade, applies only to a limited number of mental defectives.

Why is it that such a dismal picture has been drawn of the feeble-minded? Partly because criminalistically inclined mental defectives occasionally commit atrocious crimes which arrest universal attention and condemnation, but partly, and chiefly, because of the practice of diagnosing as feeble-minded people who differ but little from persons of normal intelligence. Thus some have insisted, and a few still insist, on diagnosing older adolescents and adults who measure only 12 years in intelligence as feeble-minded, although this standard would render 47 per cent, or 44,556,000 of the white inhabitants of the country, and 89 per cent or 9,309,400 of the negroes,[9] feeble-minded, according to the results of the army examinations. Others continue to diagnose those with an 11-year intelligence level as feeble-minded, although the same standard would render 30 per cent or 28,440,000 of the white population, and 79 per cent or 8,263,400 of the negroes feeble-minded according to the army results. Others, rejecting the 12 and 11-year intelligence levels, bring the level of feeble-mindedness down to ten years. This standard, according to the findings in the army would render 18 per cent or 17,064,000 of the whites and 64 per cent or over 6,694,400 of the negroes feeble-minded. If the army mental age figures[10] are at all trustworthy, radical revision of the concept of feeble-mindedness is inevitable. Not even the recognized authorities on feeble-mindedness have ever claimed that there are more than half a million feeble-minded in the country. Many have limited the estimate to 300,000 or 400,000. The writer has been fairly conservative in the diagnosis of feeble-mindedness, and has not assigned pupils to special schools for mental defectives who have measured over nine years in mentality and rarely any one with an intelligence quotient over .70.

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[8] Previous analyses made have shown similar results: Criminal Irresponsibility, Journal of Delinquency, 1916, 250f. Feeble-mindedness and Delinquency, Mental Hygiene, 1917, p. 585.

Some justify the inclusion of the higher mentalities (e. g., above age nine) in the category of the feeble-minded because they regard the individuals as feeble-minded in the field of the instincts, emotions and volition when feeble-mindedness cannot be authenticated in the field of the intelligence. But an individual can no more be considered feeble-minded in the sense in which the word has been used without equivocation for many decades, no matter how abnormal or defective he may be in the fields of the instincts, emotions and volition unless there is a radical defect of intelligence, than he can be considered feeble-minded no matter how little he knows, or how impotent, disabled or defective he may be physically unless he is subject to a serious defect in judgment, common sense, or intelligence, as Binet long ago pointed out. Such an individual may be abnormal, and possibly irresponsible and in need of guidance or restraint, but to classify him as feeble-minded would emasculate the concept of feeble-mindedness, and make it possible, according to the personal opinion of the examiners, to diagnose any one as feeble-minded who manifests any conduct disorder. The moment we attempt to justify the diagnosis of feeble-mindedness on the basis of emotional abnormalities, which are hard to appraise by exact objective methods, we run the risk of throwing the whole science into confusion. Unless we hold fast to definite, clear-cut distinctions, we shall continue to classify individuals as feeble-minded who are just as intelligent as millions of socially acceptable and vocationally successful people, though they may be otherwise abnormal (neurotic, psychoneurotic, psychotic, unstable, etc.)[11]

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[9] There were in continental United States in 1920 approximately 94,800,000 white and 10,460,000 colored people. We are assuming that the present generation of children will show the same intelligence distribution as adults, and also that the women will show the same intelligence distribution, as the army examinees.

[10] The figures used occur in the Report of the Surgeon General of the U. S. Army, II, 1919, p. 1075.

We are not splitting hairs over idle, inconsequential distinctions. It is unquestionably true that in certain states, as the result of elastic standards, public school classes for the feeble-minded and the state colonies have been overpopulated with dull, backward grades of individuals. The after-histories of the discharges from the special classes and the institutions prove this to be true. A backward child does not get the opportunities he requires in a public school class or in an institution for the feeble-minded. More will be gained in the educational and social adjustment of children by sharp differentiation of levels and types than by loose differentiations. This is one of the conclusions which stand out, after seven years of administrative planning in the field of special education in the St. Louis schools. This experience has demonstrated that the highest interests of the children are best served by establishing different types of classes or schools to meet the needs of different grades of ability. This principle has now been established by statutory law in Missouri, as will be shown later, where provision is now made for special public schools for feeble-minded and ungraded classes for borderline and backward subnormals. The laws dealing with mentally subnormal pupils are very loosely drawn in most of the states which make special provision for their education in the public schools.

That the conservative views which the author has espoused for many years regarding the concept of feeble-mindedness, the prevalence of the feeble-minded and the criminality of the feeble-minded (and which have evoked heated philippics from a few scientists) are gradually finding favor is indicated by the following citations from writers who have devoted much time to the study of problems of deficiency and delinquency.

James Devon: "The great majority of them [criminal derelicts], so far from being feeble-minded, have survived conditions of life that would drive most of their mentors mad, and in their own position show as much shrewd-ness as other people do in theirs. Feeble-mindedness, badness, madness, are all convenient labels that may not so much show knowledge as cover ignorance." "The failure of all systems founded on the assumption that criminals may be regarded as automatic machines with a defect in their works is only matched by the self-satisfaction of their inventors."

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[11] Among our earlier discussions of the concept of feeble-mindedness, reference may be made to the following: "Who is Feeble-Minded?" Chapter II in Problems of Subnormality, 1921 (reprint), pp. 110–277. The concept of the Feeble-Minded, Especially the Moron, Training School Bulletin, May, 1920.

R. F. Quinlon: "My somewhat extensive acquaintance with the recidivist leads me to an opposite conclusion," namely "that the modern criminal recidivist is a poor weak-willed victim of circumstances with little intelligence and less grit." "The typical recidivist is an intelligent and responsible person, a practical philosopher according to his lights; but his moral vision is distorted, and his inclinations consequently perverted." "For his chronic moral shortcomings it is not a pill but a long course of treatment that is needed."

James P. Sturrock: "It should be readily admitted that crime is not necessarily a symptom either of simple defect or of lunacy." "Statistics vary as to the numbers of the mentally defective in prisons . . . from the huge percentages of the enthusiastic but often casual observer . . . to the critical but none the less sympathetic estimate of the prison authorities based upon observation, knowledge, and a desire for rational treatment as keen as that of the most ardent prison reformer." "The bulk of them are not ordinary lunatics," and "there are many criminal pests who are not weak-minded." "Partial irresponsibility surely implies a partial responsibility, and so much of the conduct of the criminal derelict can no more be laid to his mental defects than it can be treated without . . . stringent regulations."

William C. Sullivan: the amount of "moral imbecility" found in "juvenile crime" is "very small" and "relatively small" in "prisons." "The mental deficiency which is found in a certain proportion of criminals is shown in their general mental incapacity, and is only an indirect cause of anti-social conduct."

According to A. Eichholz only about 5% of the feeble-minded are "vicious, immoral and anti-social"; according to Mary Dendy not more than 1% of the feeble-minded are "really moral defectives"; while the British Commissioners in Lunacy for 1909 estimated that less than 4% of the mental defectives committed to the "lunatic asylums" were "morally defective." The corresponding figures from the St. Louis estimates based on the pupils who had been in the special schools during a 12-year period, would be from 3% to 4%, as indicated above.

Calvin Stone found that the difference in the mean intelligence age as determined by the Stanford Binet between white recruits and white reformatory inmates amounted to only .75 year. Of the reformatory group only 9.03% fell below the 10-year intelligence level as against 13.6% of the army group, while only 3.03% of the delinquents fell below the 9-year level as against 4.1% of the recruits."

Carl Murchison found that the median intelligence level of 3,328 white criminals corresponded exactly with the median intelligence of our white soldiers, as determined by the Alpha scale (score 62), while the negro criminals graded two points higher than the negro soldiers. Seventy-two of the white criminals were college men, or 47 more than would be expected according to the law of probability, whose intelligence score was fully equal to the average score of college students.

The inexorable logic of facts has brought a sharper limitation of the concept of the feeble-minded than the most conservative of us conceived possible a few years ago. It will probably only be possible through a similar inescapable logic of inexorable facts to set a reasonable limitation to the category of *psychopathy*, which has attained sudden popularity as a result of the limitation of the feeble-minded group. Since no one has been able to supply a scientifically adequate pathognomy of a nosological entity corresponding to a psychopath, would it not be prudent merely to refer for practical purposes to the emotionally unstable or ill-balanced and volitionally weak delinquent who is neither feeble-minded nor insane, as a "defective delinquent," without making any assumptions regarding a "diseased entity" called psychopathy, which may prove to be mythical?

DIFFERENTIAL ACTION UPON THE SEXES OF FORCES WHICH TEND TO SEGREGATE THE FEEBLEMINDED

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1. PREVIOUS OBSERVATIONS

IT has often been stated that among individuals of the lowest two or three percentiles in the distribution of human intelligence there are more males than females. This statement has been based chiefly on the census of state training schools for mental defectives, and of special classes for subnormal children. Such enumerations practically always show a preponderance of males. Kuhlmann[1] gives figures, which may serve us as fair samples, collected by him in 1915, as the result of a questionnaire returned from seven states in this country. In the state schools for feebleminded were 4,046 males (53.5%), and 3,518 females (46.5%). The United States Report for 1910 showed in institutions for the feebleminded 11,015 males (53.8%), and 9,716 females (46.2%).

Special classes for subnormal children in local school districts also show more boys than girls on the registers. The reports of the Inspector of Ungraded Classes, in New York City, show a ratio of more than two boys to one girl. Recent reports from England show three boys to two girls on the records of the special schools after-care committee of The City of Birmingham,[2] a ratio "which is frequently found in the various special schools for the mentally defective."

From reports of which those cited are fair samples, inferences like the following are drawn. "Idiocy is almost everywhere recognized as more common in males than in females."[3] "There is no doubt that there are more feebleminded boys than girls. There are more boys in the special classes in London, and in the Hilfschulen in Germany, and in the special classes so far found in the United States, and everything agrees with this."[4]

In working among the children in the special classes for mental defectives in Philadelphia, Sylvester[5] noticed that when mental tests were made by him, the girls of these classes were revealed as more defective than the boys, though fewer in number, and he commented as follows: "For reasons not of interest here, a relatively small number of girls are placed in the special backward classes. It is a matter of observation, confirmed by these results (in mental tests) that the girls of these classes as a group are more backward than the boys. . . Obviously the girls of a mental grade corresponding to the brighter boys in the backward classes, were left in the regular classes."

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[1] Kuhlmann, F., The Part Played by the State Institutions in the Care of the Feebleminded. Journal of Psycho-Asthenics, 1916.

[2] Report of The Education Committee, City of Birmingham, England. Quoted in School and Society, Oct. 22, 1921.

[3] Ellis, H., Man and Woman, 1909 ed.

[4] Goddard, H. H., Two Thousand Normal Children Measured by the Binet Measuring Scale, Pedagogical Seminary, 1911.

Reference should here be made to the findings of The Royal Commission of Great Britain, of 1904.[6] This Commission sought to enumerate the feebleminded outside of institutions, by sampling certain sections of the country, and applying a social-economic criterion to the inhabitants. The definition of "feebleminded person" which they adopted was, "One who is capable of making a living under favorable circumstances, but is incapable from mental defect existing from birth or from an early age (a) of competing on equal terms with his normal fellows or (b) of managing himself and his affairs with ordinary prudence." Upon application of this criterion, the Commission found more feebleminded males than females, but there is every reason to suppose that this criterion applies unequally to the sexes. The same supposition holds for their definitions of "imbecile" and "idiot."

Within the last five years, fairly large samplings of school children, chosen as nearly as possible at random, have been measured objectively for intelligence, with results which are not consistently the same. Terman[7] found no sex difference in numbers of the very stupid identified, in measuring 905 school children, selected at random. Pressey,[8] in testing a random sampling of 2,544 school children in Indiana found boys to be more variable, and to preponderate among the very stupid. In another sample of 1,408 school children, the same investigator[9] found a similar result, while in a sample of 787 children limited to the ages 12 and 13 years, no sex difference in variability was found, but boys preponderated among the very low scores (girls preponderating at the opposite extreme). Frasier [10] in mental tests of 1,550 unselected school children in California, found no sex difference in variability, and no preponderance of inferior intelligence among boys.

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[5] Sylvester, R., The Form-Board, Psychological Monographs, 1913.

[6] Tredgold, A., Mental Deficiency, Wm. Wood and Co., New York, 1920.

[7] Terman, L. M., The Measurement of Intelligence, Houghton Mifflin, Boston, 1916.

[8] Pressey, L. W., Sex Differences Shown by 2,544 School Children on a Group Scale of Intelligence, with Special Reference to Variability, Journal of Applied Psychology, 1918.

[9] Pressey, L. W., Further Data with Regard to Sex Differences, Journal of Applied Psychology, 1921.

Studies by means of educational and mental measurement, made previous to 1914, which bear upon the question of sex differences in intellectual deviation, have been reviewed elsewhere by the present writer,[11] and will not be noted here. In general, these studies were based on inadequate samplings, and yielded no conclusive results.

2. AIM OF THE PRESENT INVESTIGATION

The present investigation proposes (1) to throw additional light upon the question of the frequency of extreme deviations in intelligence, as related to sex, (2) to pass upon the validity of the census of the segregated, as a measure of sex differences in mental variation, and (3) to give an account of the extent to which segregation may be differential, as it affects boys and girls.

The method is to analyze large samplings respectively of those who are brought for mental examination because they are thought to be deficient, and of those who have been actually segregated. As preliminary to the collection of data, the following specific questions were formulated:

1. Are males and females brought in equal numbers from the general population, for examination as suspected mental defectives?
2. Are males and females committed in equal numbers to institutions for mental defectives?
3. Are males and females, brought for mental examination as suspected mental defectives, and those committed as such, equally distributed in birthday age?
4. Are males and females so brought, and those so committed, of equal birthday age, mental age for mental age?
5. Are males and females so brought, and those so committed, equally stupid, age for age?
6. What inferences are to be drawn from a census of the segregated, regarding the relative frequency of extremely low intelligence as related to sex?

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[10] Frasier, G. W., Sex Differences in Mental Traits and in School Achievement, Master's Essay, Stanford University, 1919.

[11] Hollingworth, L. S., Variability as Related to Sex Differences in Achievement, American Journal of Sociology, 1914.

3. MATERIAL OF THE PRESENT INVESTIGATION

The present writer undertook the investigation of some of the above propounded questions first in 1913, and in that year some of the data here included were published.[12] The material was, therefore, gathered in two separate parts, at two different times, as follows.

1. In 1913, 1,000 consecutive cases of suspected mental deficiency were transcribed from the files of The Clearing House for Mental Defectives, at The Post Graduate Hospital, in New York City. This was a public clinic, from which children or adults, if found to be feebleminded, might be officially committed to appropriate institutions. Individuals of any age, from any borough of Greater New York, if suspected of inadequate intelligence, were admissible to this clinic, for mental examination.

Measurement of intelligence was made at that time by means of Goddard's Revision of Binet's Measuring Scale. The mental examinations were made by psychologists duly appointed to serve on this clinic, among whom was the present writer, who made about one third of the measurements recorded here. Of the 1,000 consecutive cases tabulated, 117 had no record of mental measurement, because of sensory defect, language difficulty, non-co-operation, and so forth.

2. In 1921, 1,142 cases were taken from the official files of The Psychological Laboratory, in the institution maintained by The Department of Public Welfare, of New York City, called The Children's Hospital, of Randall's Island. This is the municipal institution for the detention of the feebleminded. The mentally defective of the City are received here without limitations as to age, and receive training in the schools conducted there, though the institution is called The Children's Hospital, the great majority of inmates being children of school age, as will be seen from the data presented.

The data here used were obtained by transcribing all commitments, resident at any time since the establishment of The Psychological Laboratory, alphabetically by surname, through A, B, C, D, E, F, G, and H. All cases falling under these categories were transcribed in order, both those who were inmates at the time of transcription, and those who had been inmates, except epileptics, and those whose mental tests were incomplete. The latter were cases either just admitted to The Island, or too ill to be brought for mental examination, and were distributed in chance proportion between the sexes.

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[12] Hollingworth, L. S., The Frequency of Amentia as Related to Sex, Medical Record, 1913.

The method of mental measurement was The Stanford-Binet, in about 90 per cent of cases, the remainder having been measured by Goddard's Revision of Binet's Scale, by Pintner's Scale of Performance Tests, or by Kuhlmann's Extension of Binet's Measuring Scale. The last named was used in grading cases under 3 years mentally. The mental measurements were made by the psychologists duly appointed to serve in The Psychological Laboratory, after civil service examination, or by assistants directly under their supervision.

These two distinct collections of data may be regarded as "check samples" for each other. In each case the date (1913 or 1921) refers to the year in which the transcription of cases was made.

There are certain reasons for supposing that the results here obtained from the study of segregated cases might differ somewhat from those obtained from a study of all segregated mental defectives in the state. The institution studied is located in a city, and there probably is a tendency to send boys and men to country institutions, where they can work upon the land. More males than females are transferred to up-state schools, as the files show. It seems highly probable that more males may be sent to the country in the first place, since that is permissible. Again, the state maintains a separate institution for feebleminded women of child-bearing age, and this may affect somewhat the number of women of that age found in this study of inmates (1921 data).

These possible selective influences do not, however, affect the data from those brought for examination (1913), as these cases were uncommitted at the time of examination.

4. COMPARATIVE INCIDENCE OF MALES AND OF FEMALES IN THE SAMPLES STUDIED

Are males and females brought in equal numbers for mental examination, as suspected mental defectives?

Are males and females segregated in equal numbers in an institution for mental defectives?

Of the 1,000 consecutive individuals examined at The Clearing House for Mental Defectives, 568 were males and 432 were females. Of the 1,142 cases listed in the Randall's Island institution alphabetically, 603 were males and 539 were females.

The preponderance of males brought for examination is greater than the preponderance of males actually segregated here, probably for two reasons. The first of these is that already mentioned, namely that there may be a tendency to commit males to state schools, where agriculture is possible. The second probability is that considerable numbers of the males presented are not committed, because they are found on test to be of a status higher than that where commitment can be justified.

It is true that more males than females are born, in a proportion of about 106 to 100.[13] [14] Statistics of mortality, however, show a somewhat higher death rate among male infants, so that by adolescence the numerical equality of the sexes is usually considered to be established. No statistics are available to the present writer from which the exact numerical ratio of the sexes at each birthday age, in New York City, over the decade studied, can be learned. The federal census in 1910 gave a proportion of 1,029 males to 1,000 females, in New York City, and in 1920 gave the proportion as 998 males to 1,000 females. The preponderance of males examined, and the preponderance of males segregated, in New York City, is greater at any rate than the preponderance of males born, or living in New York City during the time studied, as follows:

Proportion of males to females born	106:100
“ “ “ “ “ living in N. Y. C., 1910...	1029:1000
“ “ “ “ “ “ “ “ 1920...	998:1000
“ “ “ “ “ examined, 1913	130:100
“ “ “ “ “ committed, 1921	112:100

5. COMPARATIVE AGE OF MALES AND FEMALES IN THE SAMPLES STUDIED

Are males and females, brought for mental examination as suspected mental defectives, and those committed as such, equally distributed in birthday age?

This question is answered in the tables and graphs immediately following.

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[13] Williams, J. W., Obstetrics, D. Appleton and Co., New York, 4th ed., 1917.

[14] Rauber, A., Der Ueberschuss an Knabengeburten u. seine biologische Bedeutung. A. Georgi, Leipzig, 1900.

TABLE I, PARTS 1 AND 2

Showing the distribution of males and females, by birthday age, examined consecutively in New York City as suspected mental defectives (1913), and as detained in an institution for mental defectives, in New York City (1921).

Birthday Age, Years	1. Presented for Examination (1913)		2. Segregated (1921)	
	Males	Females	Males	Females
0– 1	3	1	0	0
1– 2	5	5	3	0
2– 3	12	7	5	6
3– 4	13	10	14	7
4– 5	19	12	20	11
5– 6	20	13	25	14
6– 7	22	13	23	7
7– 8	25	16	27	20
8– 9	33	18	29	21
9–10	32	18	34	14
10–11	46	21	39	21
11–12	46	17	29	21
12–13	52	39	33	33
13–14	57	25	43	22
14–15	59	24	43	43
15–16	46	34	43	33
16–17	17	29	22	33
17–18	15	21	18	27
18–19	10	15	18	17
19–20	5	17	9	24
20–21	6	7	6	20
21–22	3	13	11	13
22–23	1	7	11	7
23–24	1	6	7	10
24–25	2	5	7	13
25–26	2	5	9	9
26–27	3	0	4	5
27–28	2	1	3	5
28–29	2	5	4	9
29–30	0	0	4	4
30–31	1	5	4	9
31–32	2	2	4	4
32–33	1	4	4	5
33–34	0	3	4	4
34–35	0	1	4	3
35–36	1	4	7	3
36–37	0	1	2	5
37–38	1	2	2	5
38–39	0	0	5	3
39–40	1	2	3	3
40–41	0	0	3	0
41–42	0	0	1	2
42–43	0	1	1	4
43–44	1	1	6	3
44–45	0	0	2	0
45–46	0	0	2	6
46–47	0	0	1	3
47–48	1	0	0	4
48–49		0	0	0
49–50		0	1	2

TABLE I, PARTS 1 AND 2 (CONTINUED)

BIRTHDAY AGE, YEARS	1. PRESENTED FOR EXAMINATION (1913)		2. SEGREGATED (1921)	
	Males	Females	Males	Females
50–51		0	1	3
51–52		0	0	0
52–53		1	0	1
53–54		0	0	1
54–55		1	0	0
55–56			0	1
56–57			1	0
57–58			1	0
58–59			1	2
59–60				0
60–61				0
61–62				1

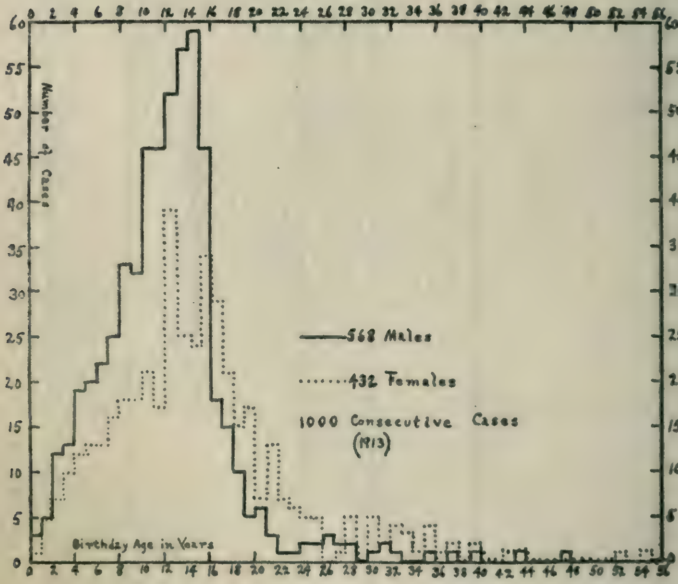

Fig. 1. Presenting graphically the facts recorded in Table I, Part 1. Showing the comparative frequency of males and females, among 1,000 consecutive cases of supposed mental deficiency, by birthday age.

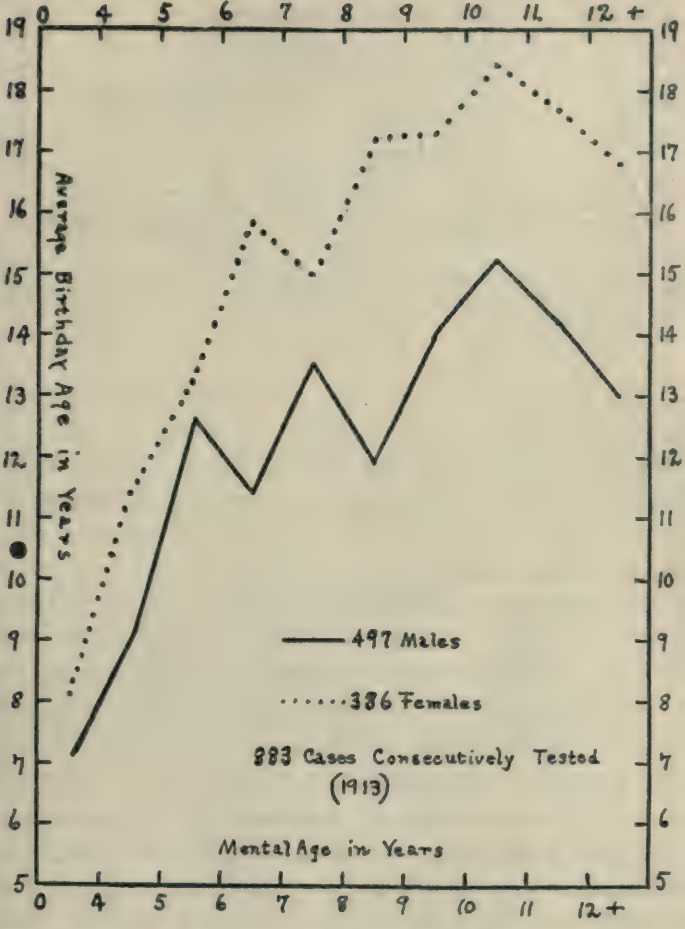

Fig. 3. Presenting graphically the facts of Table II, Part 1. Showing that females of a given mental status escape mental examination longer than do males of the same status.

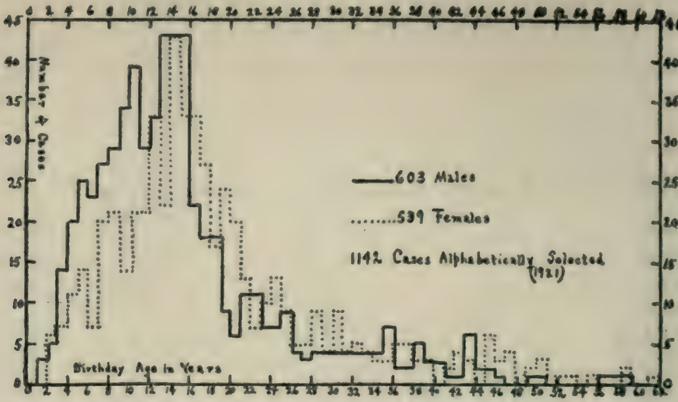

Fig. 2. Presenting graphically the facts recorded in Table I, Part 2. Showing the comparative frequency of males and females, among 1,142 individuals segregated as mental defectives, by birthday age.

From the data it is clearly seen that the preponderance of males is due to the presence of boys under 16 years of age. Males are brought for examination, and are segregated, at a relatively early age. Girls escape the pressure that brings about identification longer than do boys. It is obvious that many women who were in childhood of a status warranting segregation, escaped till the age of twenty or thirty years, or longer, in ways which were not open to the boys and men in question. Since many die before the age of 16 years, it follows that many females escaping examination and segregation at the ages when males are most frequently examined and committed, never come under those influences which cause the curves of distribution to cross at 16 years, because they have died in the meantime.

Also, there is no reason to suppose that factors which finally become operative to bring feebleminded girls for examination and commitment after 16 years of age, are equal in pressure to those which bring feebleminded boys before 16. Even if all the feebleminded lived to be just 70 years old, let us say, there is no reason to suppose that as many females as males would be ultimately identified by present social pressures.

Our second question relating to comparative age is this: Are males and females, brought for mental examination as suspected mental defectives, and those so committed, of equal birthday age, mental age for mental age?

TABLE II, PART 1

Showing that females are older chronologically, mental age for mental age, than are males, brought for examination as suspected mental defectives, in New York City (1913).

Mental Age, Years	Birthday Age at Examination					
	Males			Females		
	Average	A. D.	Cases	Average	A. D.	Cases
0– 4	7.1	3.2	92	8.1	3.8	65
4– 5	9.2	2.4	29	11.4	4.3	16
5– 6	12.6	4.2	25	13.2	4.3	32
6– 7	11.4	2.9	42	15.8	6.0	40
7– 8	13.5	2.9	76	15.0	4.6	45
8– 9	12.9	2.5	82	17.2	5.1	56
9–10	14.0	2.7	70	17.3	4.3	53
10–11	15.2	2.7	57	18.5	5.4	46
11–12	14.2	1.0	20	17.7	2.5	27
12+	13.0	0.0	4	16.8	2.9	6

TABLE II, PART 2

Showing that females are older chronologically, mental age for mental age, than are males, committed to an institution for mental defectives, in New York City (1921).

Mental Age, Years	Birthday Age as Examined in Institution Committed Cases					
	Males			Females		
	Average	A. D.	Cases	Average	A. D.	Cases
Below 3	11.3	7.6	154	11.7	6.7	111
3– 4	14.0	8.5	66	16.5	9.6	47
4– 5	13.0	6.0	51	16.7	7.6	38
5– 6	18.7	9.4	42	19.2	9.1	52
6– 7	18.0	8.7	66	21.5	8.6	95
7– 8	16.2	5.5	72	22.7	9.3	64
8– 9	16.2	5.0	74	19.7	7.0	64
9–10	15.7	3.0	35	20.1	7.0	37
10–11	17.6	5.7	22	20.6	6.3	26
11+	18.0	6.1	21	19.8	4.2	5

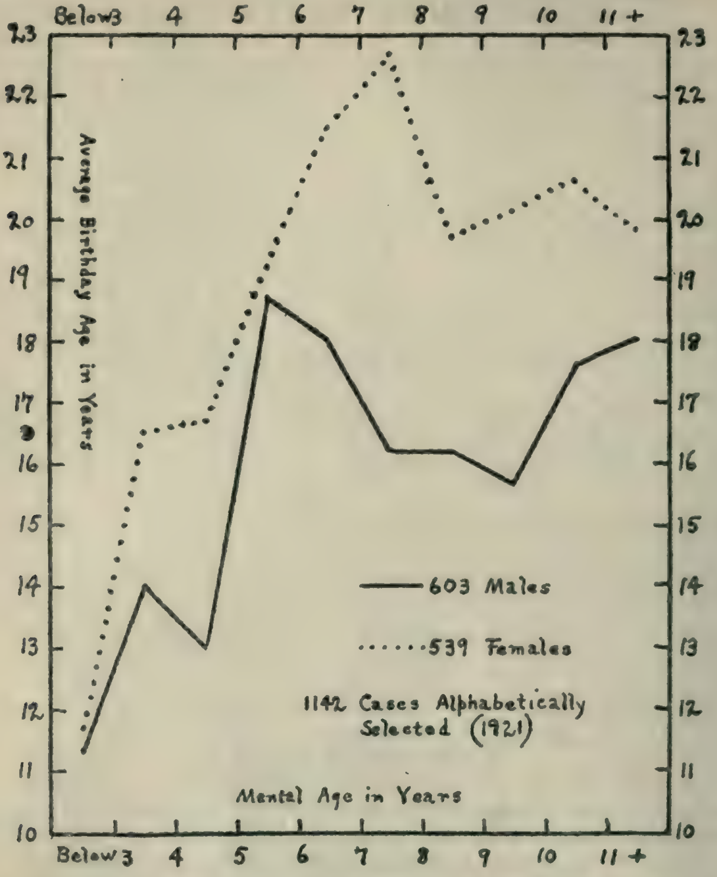

Fig. 4. Presenting graphically the facts of Table II, Part 2. Showing that females of a given mental status escape segregation longer than do males of the same status.

From Table II, Parts 1 and 2, it is clear that females who survive in the ordinary schools, and in society, till past the age of adolescence, do not do so because they are of better mentality than the corresponding males. Females *of any given mental age* escape examination and segregation longer than do males of the same mental age, — this difference becoming very marked above the mental age of 6–7 years. A female with a mental age of 6 years has as good a chance to survive inconspicuously in the educational, social and economic milieu of New York City as has a male of a mental age of 10 years.

That the greater age of females at each mental age does not result simply from greater longevity of females, is clear from the distributions in Figures 1 and 2.

6. COMPARATIVE STUPIDITY OF MALES AND FEMALES IN THE SAMPLES STUDIED

Are males and females, brought for mental examination as suspected mental defectives, and those so segregated, equally stupid, age for age?

In seeking the answer to this question, the IQ's have been distributed by sex, and by birthday age, and the average IQ under each birthday age has been found for each sex separately. Also, the IQ's have been distributed by sex, disregarding birthday age. (IQ is here taken to mean the ratio between birthday age and mental age, by whatever scale of measurement was used.) In almost all of the cases here distributed, the scale was either Stanford-Binet (1921) or Goddard's Revision (1913).

In these tabulations a difficulty arises through the lack of exact measurement below the level of 3 years. As before stated, a few cases testing below 3 had been measured by Kuhlmann's method, and the IQ's for these can be included. All who remained unmeasured, being listed in the records simply as "below 3", were omitted from the distributions.

Very few of the children sufficiently stupid to be presented or segregated early, register as high as 3 mentally by their sixth birthday. Not enough children under 7 by birthday age registered 3 or more mentally, so that distribution of IQ's under that age would be worth while. The calculations begin, therefore, with the 7-year-olds.

There is no reason to suppose that the comparison would result differently, if all individuals below 3 mentally could be included in the distribution of IQ's. More males than females are below 3 in mental age, but this does not mean that there are more very low-grade intelligences among the males. Inspection of Table IV will show that more of the males than of the females below 3 mentally are relatively young children, so that their IQ's, when they have developed through the period of growth, may be relatively high.

By methods at present known, it is, of course, not possible to calculate the lowest existing IQ's. It is an interesting theoretical question as to how low IQ can run in the human species, and as to what "just not any intelligence," or zero intelligence, would be.

The tables and graphs which follow show the facts with respect to the comparative stupidity of the males and females, in the samples here studied. In making the graphs in Figures 5 and 6, all individuals over 16 years of age have been grouped together as adults, because after that point the cases at any one age are so very few that comparison from year to year has practically no reliability.

It will be seen that at the points which include the great majority of cases, namely among children of school age, the females have less intelligence than the males. After the age of 16 years, the difference disappears. For cases presented for examination after that age, the average IQ is 52, for both males and females. Among segregated cases the average IQ for adult females is 43 and for adult males, 45 with a large measure of unreliability.

It is interesting to see what the differences are between the presented, and the finally segregated. The IQ's of those presented run about ten points higher on the average than the IQ's of the actually committed. The difference in stupidity between the sexes is much more marked among those actually segregated, than among those presented for examination. A girl must be relatively more stupid than a boy in order to be presented for examination, in the first place, and she must be still more stupid, comparatively, in order that she may be actually segregated, as unfit for social and economic participation.

TABLE III, PART 1

Showing the relative stupidity of males and females, presented for mental examination as suspected mental defectives; omitting cases of mental age below 3 (1913).

Birthday Age, Years	Males			Females		
	Av. IQ*	A. D.	Cases	Av. IQ	A. D.	Cases
7– 8	69	17.8	17	75	9.3	11
8– 9	65	14.5	21	58	15.9	16
9–10	70	15.4	30	70	16.2	14
10–11	71	14.8	41	67	12.6	18
11–12	70	14.3	43	66	12.5	16
12–13	66	10.2	52	57	12.6	38
13–14	67	11.3	52	67	11.0	24
14–15	61	11.5	55	60	12.4	22
15–16	53	9.9	45	57	8.0	33
16+	52	9.4	70	52	10.3	150

*To the nearest one half of one per cent.

TABLE III, PART 2

Showing the relative stupidity of males and females, detained in an institution for mental defectives; omitting cases of mental age below 3, except a few such cases examined by Kuhlmann's method (1921).

Birthday Age, Years	Males			Females		
	Av. IQ*	A. D.	Cases	Av. IQ	A. D.	Cases
7– 8	60	14.5	14	62	18.3	17
8– 9	53	13.0	21	51	9.2	15
9–10	64	14.1	30	64	10.7	9
10–11	61	15.7	34	52	13.6	20
11–12	60	13.4	26	50	11.2	17
12–13	61	11.5	29	51	14.3	29
13–14	60	14.9	37	48	14.9	18
14–15	56	11.1	39	55	10.6	41
15–16	55	9.2	41	50	13.6	28
16–17	47	14.8	20	44	8.7	33
17–18	33	10.9	13	51	8.7	24
18–19	44	13.4	18	44	7.5	15
19–20	53	15.0	9	50	14.3	22
20–21	38	9.1	6	43	8.8	15
21–22	44	10.9	9	47	7.4	12
22–23	37	11.4	11	41	11.3	5
23–24	52	13.4	5	55	12.3	8
24–25	47	9.3	6	45	8.3	12
25+	41	1.2	64	43	9.7	103

*To the nearest one half of one per cent.

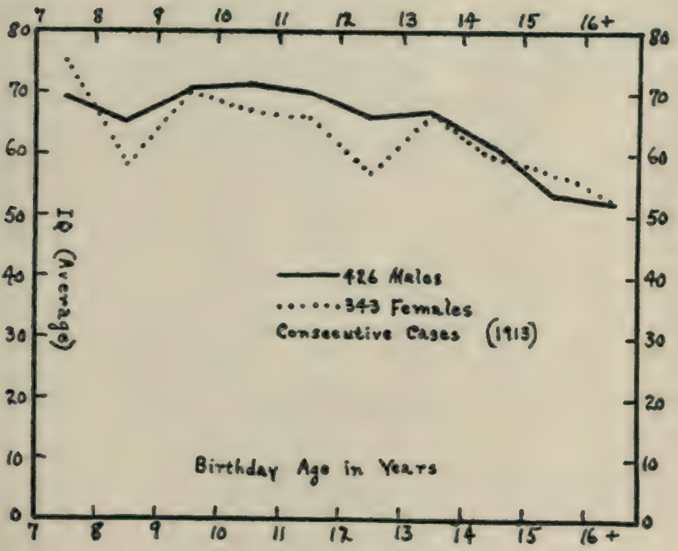

Fig. 5. Presenting graphically the facts of Table III, Part 1. Showing the comparative stupidity of males and females, brought for mental examination, age for age.

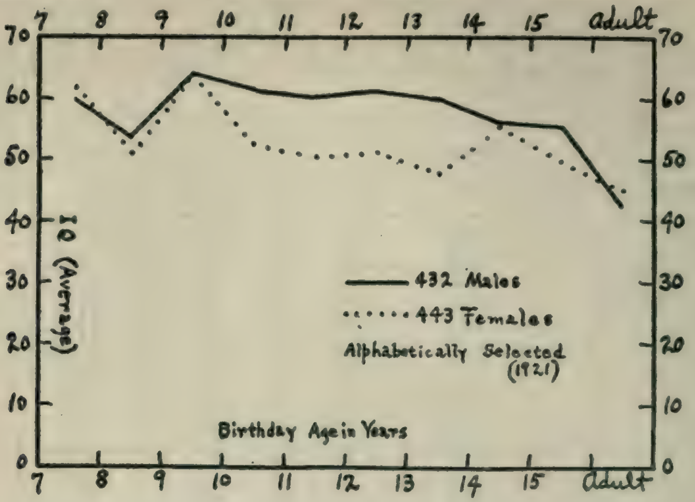

Fig. 6. Presenting graphically the facts of Table III, Part 2. Showing the comparative stupidity of males and females, segregated in an institution, age for age.

TABLE IV

Showing the distribution of persons measuring below 3 years in mental level, from 7 years through adult, both those presented (1913), and those segregated (1921).

BIRTHDAY AGE, YEARS	EXAMINED (1913)		SEGREGATED (1921)	
	No. of Males	No. of Females	No. of Males	No. of Females
7 –8	7	5	13	5
8– 9	9	2	9	8
9–10	1	4	5	6
10–11	5	3	7	1
11–12	1	2	4	4
12–13	0	0	5	8
13–14	1	0	6	4
14–15	2	0	4	2
15–16	0	1	2	6
16+	1	4	34	28

TABLE V, PART 1

Showing the distribution of IQ among persons presented for mental examination as suspected mental defectives, by sex; omitting all cases under 7 years of age, and all cases under 3 years of mental age (1913).

IQ	Males		Females	
	Frequency	Per cent of Total	Frequency	Per cent of Total
15–25	8	1.8	6	1.7
25–35	20	4.6	21	6.1
35–45	32	7.5	33	9.6
45–55	64	15.0	71	20.7
55–65	99	23.2	81	23.6
65–75	103	24.1	80	23.3
75–85	61	14.3	36	10.4
85–95	29	6.8	13	3.7
95–105	10	2.3	2	0.5

TABLE V, PART 2

Showing the distribution of IQ among inmates of an institution for mental defectives, by sex; omitting cases under 7 years of age, and cases under 3 years of mental age, except those measured by Kuhlmann's method (1921).

IQ	Males		Females	
	Frequency	Per cent of Total	Frequency	Per cent of Total
15–25	29	6.7	24	5.4
25–35	47	10.9	49	11.0
35–45	66	15.2	117	26.4
45–55	90	20.8	107	24.1
55–65	83	19.2	81	18.2
65–75	72	16.6	41	9.2
75–85	27	6.2	17	3.8
85–95	9	2.0	5	1.1
95–105	9	2.0	2	0.4

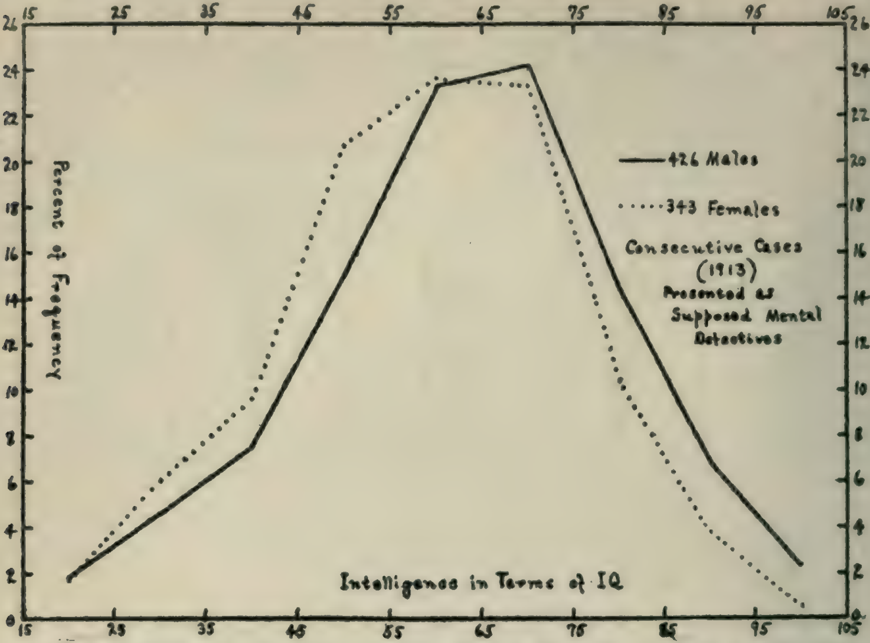

Fig. 7. Presenting graphically the facts of Table V, Part 1. Showing the comparative distribution of IQ for males and females, brought for mental examination, as suspected mental defectives.

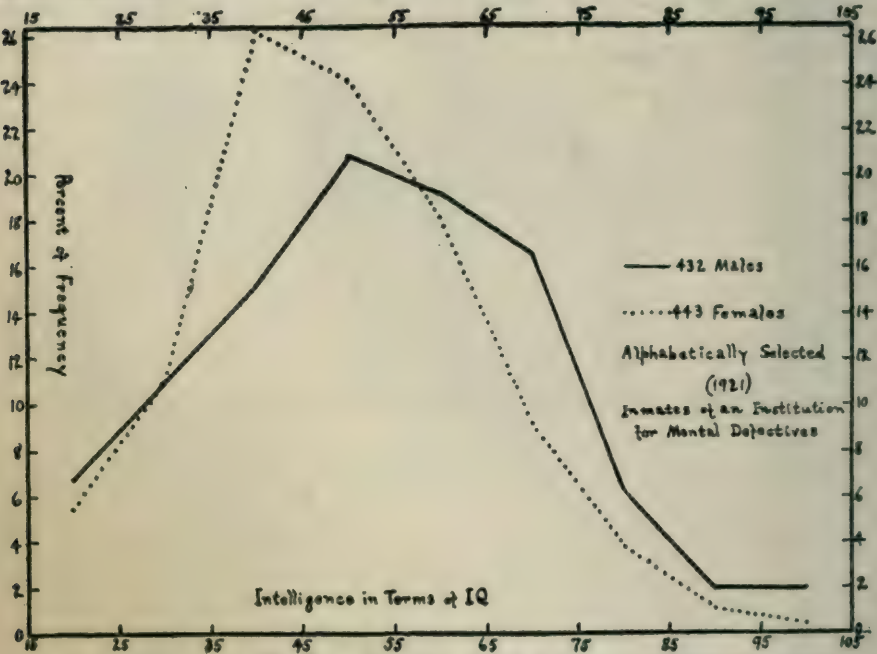

Fig. 8. Presenting graphically the facts of Table V, Part 2. Showing the comparative distribution of IQ for males and females, segregated in an institution for mental defectives.

7. SPECULATIVE INTERPRETATIONS

The data here collected show that the pressures which bring about segregation of feebleminded school children are differential in their action upon the sexes, but they do not tell us what the pressures are. So far as the present study is concerned, interpretation of the nature of those pressures remains in the state of conjecture.

Girls segregated as mentally deficient are *more stupid* than boys segregated as mentally deficient; *fewer* girls than boys are segregated; and the girls who are segregated *escape longer* than do the boys.

These phenomena may possibly arise because (1) parents are more interested in their daughters than in their sons, and are more reluctant to part from them; (2) parents and other relatives are more interested in boys than in girls, and counsel is, therefore, more readily sought for deviating boys than for deviating girls; (3) girls and women have legal and customary means of economic survival, which boys and men do not have, and which require a low minimum of intelligence; (4) intelligence is not so important an element in the social-economic survival of girls and women, as it is in that of boys and men, so that girls who are extremely stupid do not give concern, and are not noticed, to the same extent as are boys of the same degree of actual stupidity; (5) boys, because they are less restricted, come more often into conflict with the law than do girls, and are thus scrutinized and referred more often by courts; (6) the subjective notion as to what constitutes intelligent behavior is different in the case of girls from what it is in the case of boys; (7) factors not included in any of these conjectures may be operative.

Data showing the social-economic status of the feebleminded over 16 years of age, among the cases presented for mental examination, are given herewith. They are suggestive as to a line of research which might prove fruitful, in an attempt to determine what are the forces, the differential action of which has been demonstrated.

VOCATIONAL STATUS OF PERSONS OVER 16 YEARS OF AGE, PRESENTED AS SUSPECTED MENTAL DEFECTIVES (1913)

VOCATION	MALES	FEMALES
Housework at home	1	28
Housework for wage (av. $4 per mo. and board)	0	19

*Married	0	16
Prostitute	0	15
Still at school	0	5
Nursery maid	0	3
*Engaged to be married	0	2
*Common law marriage	0	2
Factory hand (unspecified)	0	2
Transfer from an institution	5	2
Scrubbing in hospitals	0	2
Feather worker	0	1
Cabaret singer	0	1
Bottle filler	0	1
Paper worker	0	1
Book binder	0	1
Laundry hand	1	1
Soldering lamps	0	1
Chamber maid	0	1
Cigar maker	0	1
Manicurist	0	1
Errand boy	3	0
Porter	1	0
Candy worker	1	0
Delivery boy	1	0
Gardener	1	0
Rag picker	1	0
Plumber's helper	1	0
Janitor	1	0
Umbrella mender	1	0
Helps father	1	0
Music student	1	0
Newsboy	1	0

The above tabulation shows that there is certainly a sex difference in the occupations followed by the feebleminded. Housework is the basis of survival for a very large percentage of feebleminded women. This may be for relatives, as paid domestics, as married women, or as common law wives. On the other hand, housework accounts for the survival of but one boy over 16 years of age.

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*Marriage is listed as a vocation, since these women all did housework, and were in turn supported.

Prostitution appears to offer the next most favorable basis for economic survival, among the feebleminded girls here found.

There seem to be no occupations which support feebleminded men as well as housework and prostitution support feebleminded women.

Data showing the social-economic status of feebleminded women have been gathered and presented elsewhere,[15] and are in harmony with the tabulation here made.

It is a matter of common knowledge that girls, as a group, are not expected continuously to follow competitive careers for a living. It is expected that their work will be in the household, domestic work and child-rearing, performed by the majority non-competitively (as wives or daughters) and without a stipulated wage.

Men, on the other hand, form a competitive group, working in rivalry with each other for a wage. This is true of even the simplest work that men do, such as digging with a pick, or loading sand on carriers. It would be expected *a priori* that the boy who cannot compete would become an object of concern.

The girl who cannot compete mentally need not become an object of concern to the same extent, because she may drop into the non-competitive vocational life of the household, where she "naturally" performs many routine tasks, requiring but rudimentary intelligence, such as peeling vegetables, washing dishes, scrubbing, carrying fuel, and so forth. If physically unobjectionable, as may be the case, she may marry, thus fastening herself to economic support in a customary fashion. Or she may become a prostitute, for survival is possible in that pursuit at a low intellectual level. Thus feebleminded girls fit in with the existing folkways, in a relatively inconspicuous fashion.

It should be worth while, from the standpoint of school and society, to determine just what the forces are which act to bring about differential segregation, and what the relative weight of each force is.

A question of incidental interest, arising from the graphs in Figures 1 and 2, concerns the infrequency of individuals over 30 years of age. Why are there so few "old people" in the samples studied? Of those who are inmates at 12, at 13, or at 14 years of age, but few are left two decades later. Whether they die, or find adjustment elsewhere by that age, our present study does not inform us. It may be that most of the persons as low-grade mentally as those here studied have perished by the age of 40 years.

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[15] Schlapp, M. G., and Hollingworth, L. S., An Economic and Social Study of Feebleminded Women. Medical Record, 1915.

Another question of interest, not answerable from the data at hand, arises from Figures 5 and 6. Why should the IQ's become lower, as the birthday age of the individuals studied increases, so that adults have the lowest average IQ of all?

It may be that the higher IQ's among the children win discharge from the institution by the age of maturity. This would not, however, explain the same phenomenon in the 1913 data. The slight and gradual decrease in IQ among the very stupid, during the course of development, may enter as a factor.[16]

By intensive study of complete histories, these questions could doubtless be answered.

8. CONCLUSIONS

From the foregoing study the following conclusions are drawn:

1. More males than females are brought in New York City for mental examination, as suspected mental defectives.

2. More males than females are committed to the municipal institution for mental defectives, in New York City.

3. Males and females brought for mental examination as suspected mental defectives, and those so committed, in New York City, are not equally distributed with respect to birthday age. From 0 years to 16 years of age, there is a decided preponderance of males. From the age of 16 years, the reverse is true. The frequency of cases after 16 years is greatly reduced, and almost no cases past the age of 40 are involved.

4. Males and females, brought for mental examination as suspected mental defectives, and those so committed, are not equally old, mental age for mental age. At all degrees of stupidity females survive longer without examination or commitment than do males of the same mental status.

5. Males and females suspected of being mentally defective, and those segregated as such, are not equally stupid, age for age. The females are of lower grade than the males, up to the age of about 16 years. Among the adults here studied, the segregated males have an average IQ of 42.6, and the females have an average IQ of 45.0, while among the adults presented for examination both males and females have an average IQ of 52.

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[16] Kuhlmann, F., The Results of Repeated Mental Examinations of 639 Feebleminded Over a Period of Ten Years. Journal of Applied Psychology, 1921.

Since the great majority of all cases falls under 16 years, the central tendency of IQ is lower for females than for males.

6. Institutional statistics, showing merely the numerical ratio of the sexes to each other among inmates, are invalid as an index of sex differences in frequency and amount of mental deviation, for the population at large. Such institutional statistics serve merely as an index of the extent to which it is comparatively easy and convenient for females who are extremely unintelligent to survive in the performance of their functions, in ordinary society.

9. IMPLICATIONS

The implications of this study are of interest for school and society. Among public school children there are probably more feebleminded girls than boys, since the girls corresponding to the higher grade boys under institutional supervision are evidently left in the population at large. Yet the registers of special classes for mentally deficient children show more boys than girls in such classes. Feebleminded girls will doubtless continue to drift with the regular classes, unless selection for special classes is made in a rigidly objective manner.

From the standpoint of society it is of interest to know that feebleminded girls fit into the existing social and economic order more conveniently than do boys of the same mental quality. Extremely stupid girls thus survive, and presumably reproduce their kind, more easily than do extremely stupid boys. The social order is such that survival for the former depends less upon intelligence than it does for the latter.

In so far as the preponderance of males among segregated feebleminded persons has been thought to support the theory of greater male variability in intellect, it must be said that a mere census of such persons is without validity as evidence.

10. ACKNOWLEDGMENTS

Acknowledgments should be made of the courtesy and co-operation of Dr. M. G. Schlapp, Director of The Clearing House for Mental Defectives, The Post Graduate Hospital, New York City; of Dr. John S. Richards, Medical Superintendent, The Children's Hospital, Randall's Island, New York City; and of Dr. Louise E. Poull, Psychologist, The Children's Hospital, Randall's Island, New York City. They facilitated in every way the collection of data on which the study is based.

Table I, Part 1, Table II, Part 1, and Figure 1, are here reproduced by courtesy of Wm. Wood and Co., publishers of *The Medical Record.*

TEMPERAMENT IN HARMONIOUS HUMAN RELATIONSHIPS

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DO we prefer to work with people having temperaments similar to our own or with persons having contrasting temperaments? Is the mobile, "rapid-fire" type of man more popular than the deliberate, accurate type? This paper describes an attempt to answer these questions by the experimental method.

Rarely has the experimental method been used in attacking problems in human relationships. Observation of the way human beings act in groups is the usual method employed by writers of semi-popular literature. More technical social psychologists subject the data of human experience to critical analysis and search for principles of social interaction. The experimental method has been neglected, primarily because it has not seemed feasible in social situations. Human responses, particularly affective reactions, are usually not normal under the controlled conditions of an experiment. However, an opportunity presented itself at the Carnegie Institute of Technology to use the experimental method in studying one of the minor aspects of human relationships.

Seventy-five men, enrolled in the School of Salesmanship at the Carnegie Institute of Technology, served as subjects for the experiment. At the beginning of the course the entire class was given the Carnegie series of group will-temperament tests,[1] which was adapted from the Downey Will-Temperament test. The series consisted principally of two groups of test, a speed group and an accuracy group. The speed group comprised tests of the rate of normal writing, the rate of speeded writing, the rate of checking traits in a series of paired opposite traits, and the enlargement and acceleration of writing under distraction. The accuracy group comprised tests of accuracy in copying samples of irregular handwriting, and ability to retard writing.

Standings in this series of tests were determined for each member of the class from norms based on a miscellaneous group of two hundred people. These decile standings were then plotted for each subject. The resulting patterns showed, for some men, higher standings in the speed tests than in the accuracy tests. It was assumed that high scores in these tests of mental and motor speed indicated quick temperaments. These men were accordingly designated the mobile, "rapid-fire" type. The significance of the high scores in the accuracy tests was similarly assumed. Accordingly those whose standings in the accuracy tests were noticeably higher than their standings in the speed tests, were designated the "deliberate" type. It was not considered necessary that one set of items be *above average* in standing, but only that one combination of traits showed relative dominance over the other combination of test results.

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[1] For a complete account of these tests, see Ream, M. J., Group will-temperament tests. J. of Ed. Psychol., January, 1922, 13, 7–17.

Obviously, the quick, deliberate, careful, careless phases of temperament constitute but a small fraction of the usual connotations of that term. However, purely objective results were available in these items, so for the purpose of this experiment only these two contrasting patterns were chosen.

The subjects were mature men, ranging in age from twenty-five to thirty-five years. (A few cases were not included in these age limits.) They came from various parts of the country to take the three months' training course at Carnegie. When the course began, practically all were strangers to one another. During the course these seventy-five men met together for four hours of class work daily. For selling practice in the field, they were divided into eight groups of nine or ten each.

At the close of the course six names of members of the class were presented to each man. Three of the six were of the mobile type and three deliberate. From these the subject was asked to choose the three with whom he would prefer to work. The names of the six men were in mixed order and, as far as possible, they belonged to the same field-work group as the man to whom they were presented. This meant that the chooser had worked for three months in a small group of which the six men were members, so good acquaintance could be reliably assumed. On the other hand, the absence of life long acquaintances eliminated what might have been a source of error. Where the required number of specified temperament patterns were not present within a field group, two group leaders who had served as substitutes in all the groups were used as alternates. One alternate was of the mobile type and the other of the deliberate type.

The instructions were as follows:

"Straw Vote"

"Suppose you were first assistant to an agency manager and you needed three men to come into the office from field selling to help you with your work. Which three of the following list of six men would you choose? *Do not* consider their ability as salesmen but choose the ones whom you would prefer to have working at desks next to yours week after week. Mark with a check your three choices."

To eliminate as far as possible the "halo" which surrounds unusually successful salesmen, the situation presented involved office work. Furthermore, since the three selected were to act as assistants to the chooser, there was presumably less likelihood that outstanding leaders would be selected. Rather the basis of the choice would be personal preference and congeniality.

It is certain that a number of personal factors enter into any such selection, but if a sufficient number of selections are made — in this case 225 choices by 75 subjects — it is fair to assume that such factors tend to counterbalance each other.

The 75 judges were classified according to temperament pattern as follows: mobile type, 29; deliberate type, 35; non-specific, in which neither the speed nor the accuracy items seemed to dominate, 11. The results of the selection are shown in the following table:

TABLE

75 Judges chose		%	δ
Mobile type	129 times	57.3	.03
Deliberate type	96 times	42.6	.03
Difference		14.7	.04 Error of Difference
29 Judges of mobile type chose		%	δ
Mobile type	56 times	64	.05
Deliberate type	31 times	35	.05
Difference		29	.07 Error of Difference
35 Judges of deliberate type chose		%	δ
Mobile type	53 times	50.5	.05
Deliberate type	52 times	49.5	.05
Difference		1.0	.07 Error of Difference
5 Judges, high in both parts of pattern, chose			
Mobile type	10 times		
Deliberate type	5 times		
3 Judges, low in both parts of pattern, chose			
Mobile type	5 times		
Deliberate type	4 times		

3 Judges, medium in both parts of pattern, chose

Mobile type	5 times
Deliberate type	4 times

Total judges of non-specific patterns chose

Mobile type	20 times
Deliberate type	13 times

Nine judges chose all three men of the mobile type and none of the deliberate type. Of these nine, five were mobile, three deliberate, and one equally high in both parts of pattern. One judge chose all three men of the deliberate type and none of the mobile type. This man was himself a deliberate in type.

With the limitation in mind that the results were determined only from a group of salesmen, the following conclusions may be drawn:

1. Men of the mobile type are more popular than men of the deliberate type. The difference in the percentage is more than three times the error of the difference.

2. Men of mobile type prefer to work with their own type, other things being equal. The difference in the percentage is more than four times the error of the difference. The "rapid-fire" man wants fast people to assist him.

3. Persons of deliberate type are evenly divided in their preferences. As a group they like to work with either type. Other factors than mobile-deliberate tendencies determine the choice.

HOW IS A SCIENCE OF SOCIAL PSYCHOLOGY POSSIBLE?[1]

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IF it is true as most psychologists believe, that psychology is a science and its data capable of investigative control why is it that those types of its facts called social or group responses are hardly subject to any rigid evaluation? Especially pertinent is this question when we consider that the social phenomena of psychology like the data of all other branches of the science consist of nothing but responses to stimuli. But where shall we seek for the reasons why social psychology remains without the realm of science and what must be the conditions which would make a science of collective psychology possible?

To raise these questions is of course to unearth innumerable difficulties, for we soon discover that the way to a scientific interpretation of social behavior is barred by a series of traditional prejudices which interfere greatly with a clear understanding of the facts involved.

Basic to all of these harmful prejudices is the physiological conception of psychology. This conception we recall became developed and elaborated in the middle of the past century. At that time the overwhelming influence of biological conceptions upon psychological thought dictated that psychologists should hypothesize a biological or neural basis for what was then esteemed to be the data of psychology, namely, mental states. Now what was the result of such a conception? At first, the outcome was admirable and wholly beneficial to the discipline, for the nervous system as a basis and an accompaniment gave definiteness and solidity to mental states. Since that time, however, the development of psychological facts has made superfluous and even harmful the biological basis. In the first place, such a conception prevents us from studying the biological factors of persons as definite phases of psychological phenomena, which means on the whole that the psychological facts will not be correctly interpreted. Today it seems quite apparent that the stressing of biological or neural accompaniments of conscious states perpetuates these very states and prevents us from looking upon psychological acts as concrete responses of persons to their stimulating surroundings.

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[1] The substance of this article in briefer form was read as a paper before the American Psychological Association at Princeton, Dec. 1921. For a more detailed study of some of the points discussed, see an article in the American Journal of Sociology, 1922, vol. XXVII, 611-627, 758-779.

Very worthy of reflection is this particular point and we may well pause a moment to consider it, for when we do correctly incorporate the physiological data in the psychological domain they bring us to consider psychological phenomena as concrete specific acts. And from the standpoint of social reactions we would achieve thereby an undisguised blessing. In the second place, because a physiological basis was made the cause of psychological phenomena it has never appeared necessary for psychologists to pay much attention to the stimulating situations. And only when we realize that no psychological activity can be adequately described except in terms of its stimulating objects and conditions do we see how faulty is the physiological tradition.

And if we desire to offer additional counts in our indictment of the physiological basis we might suggest that it has made psychology impotent to deal with numerous types of important psychological responses, both of an individual and social sort. For example, among individual reactions is it not true that a physiological psychology is unusually helpless in describing thought and memory behavior and powerless to touch in the slightest the problems of dreams and language? Strikingly appears this inutility of the physiological conception (for the reason of course that it is merely used as an explanatory hypothesis) when we observe how little service it renders us in the handling of feeling data which it should be most able to do. Why the physiological conception should be unable to describe feeling reactions is owing, as we have already suggested, to the fact that it does not really stand for the inclusion of physiological features in a total psychological response, but rather is designed to supplement and support abstract mentalistic elements.

But if the physiological conception is of as little value as we suppose in the study of individual reactions how much less useful must it be for the interpretation of social responses, for obviously the latter are unambiguously cultural facts infinitely more dependent upon institutional conditions than upon the organic constitution of the reacting individual. In this sense even language and much of the process of thinking are social activities and as we have said of language the ordinary psychological techniques are unable to deal with such forms of reaction.

II

And now we may enumerate some of the outstanding specific consequences of a physiological attitude in psychology, an attitude which we must classify with those theories which seek in the individual himself the exclusive causes of social as well as individual responses. By far the most disastrous of these results is the development of the theory that all the copious and diverse behavior of human beings can be considered as the unfolding of a limited series of springs of action called instincts. Strangely, but after all perhaps characteristically enough, the instinct causes of action were designed to replace reason, another internal cause for at least some forms of our reaction, namely, moral conduct.

Now it may be highly convenient on the one hand to account for the multiform phases of our behavior upon the basis of a few original instincts, but of a certainty such a procedure is very injurious to the scientific interpretation of social facts. Eagerly do psychologists translate and analogize our fundamental sucking reactions and organic reflexes into teleological powers which predestine us to undergo certain social developments. Unfortunately, by the employment of such magical and simple explanations of human behavior the multitudinous actual facts of the person's interaction with constantly changing social situations are entirely robbed of their obvious significance. To translate even such undoubted facts as the actions of a young child into the expression of teleological urges or hereditary and innate organizations of neural pathways is to blind ourselves to the myriad influences that expand and direct our personalities in spite of the fact that the latter influences we can and do observe daily. And if we are to reach even the first stages of scientific accuracy in dealing with social reactions we must describe only what we actually observe to happen, and leave the sorcerous potencies and teleological forces to those who possess the type of vigorous imagination required to understand them.

Closely connected with instincts as unit causes or springs of human action are the unique temperaments which are presumed to be inherent in individuals conditioning their behavior and in consequence making the conduct of the group what it is. Temperament in this context is assumed to be a static entity or quality, a phase of the individual which is presumed to mark him off from the remainder of his fellow men on an authentic non-antomical basis. And all this in plain view of the clear facts that the name temperament stands for a highly intricate social situation in which the salient features are specific forms of stimulating conditions and a complex of habit and other responses.

Another issue of the self-causing conception is the erection and elaboration of the mentalistic accompaniment of physiological or neural states into a superconsciousness. That is to say, the so-called consciousness of the individual which is presumed to parallel or otherwise accompany neural activity becomes developed by means of group action into a group or community consciousness. Such a view in its attempt to generate this superconsciousness almost inevitably results in an abstract metaphysics of social interaction — a metaphysics which is very far removed from any genuine human action.

If the physiological view is not itself responsible for the development of a series of single principles of the immediate and complete explanation of social phenomena it certainly has not operated in any sense as a deterrent to such non-scientific procedure. Typical among the many attempts to find a single principle, mental force, or condition to account for group behavior are (1) the imitation principle of Tarde, (2) the consciousness of kind theory (Giddings), and (3) the idea that individuals possess innate or racial attitudes.

However incomplete we are willing to leave our discussion of the malevolent character of the internal principles of social conduct, we cannot omit what we must look upon as one of the latest developments in this direction, namely the Freudian movement. In this movement we have a combination instinct — unconscious cause of action. Whatever objection there may be to instinct doctrines it is infinitely intensified by the fact that the Freudians would make a single sex instinct the ultimate determiner for all human action, social responses of course included.

III

In view of the defectiveness of the physiological theory we submit therefore that as a prime requisite for the establishment of social psychology as a science we must immediately and decisively retreat from the conception that the development and operation of social responses can be traced to causes within individuals. And this means nothing less than that we must adhere rigorously to the hypothesis that all psychological phenomena consist of the responses of persons to definite conditions of stimulation. If we abide by such a theory and act upon it we can dispense entirely with any obnoxious notion of causation, for by cause we can mean only a stimulating condition correlated with a definite form of response. A double relationship there is here, by the way; first the correlation of a given response with a stimulus when the person first comes into contact with the stimulating object (this we might call association in development), and a later correlation at every subsequent contact with the stimulus object or condition in question (a connection of responses and stimuli to which we can give the name operative association). This correlation of responses and stimuli can be excellently illustrated by language reactions. The infant finds his group using certain words, let us say, which stand for given objects. He therefore adopts these words, that is always thereafter makes the same verbal reactions to objects as others do.

What it may be asked may we hope to accomplish by placing social psychology upon a stimulus-response basis? Nothing less we answer than the interpretation of social responses as actually observable facts. In detail such a hypothesis as we propose entirely avoids the attribution of mystic powers to the person and the interpretation of social phenomena by the creation of a superindividual mind. Since our only observable data are concrete reactions to stimuli the individual mind merely means a system of specific response patterns and consequently the conception of a superindividual mind is an impossible construction.

Possibly the most striking advantage to be derived from the stimulus-response hypothesis of social reactions and one which will materially aid in bringing social psychology into the domain of the sciences, is the obliteration of all sharp distinctions between social and individual phenomena. For, if we are dealing exclusively with concrete responses to stimuli what else can we observe but the responses of individuals? Notice, however, that when we say that all psychological reactions are the responses of persons we are not blinding ourselves to the distinction between individual and social responses, for there is indeed all the difference in the world between the total behavior situation of an individual reaction and that of a social response.

Incumbent upon us it is therefore to specify precisely wherein lies the difference between social and individual action. The distinguishing mark we assert lies not in the response factors but in the character of the stimulating situation. What exactly this difference is we may bring out in the following statement, namely that whereas an individual reaction is a response to some natural object or condition, the social or group reaction is a response to an institutional object or situation. Social psychology, therefore, is essentially institutional.

What then do we understand by natural and institutional stimuli? Briefly, a natural stimulus is some object or situation which has never been surrounded with customary or particularized reactions. For example, as I cross a meadow I see in my path a fairly large stone and I react to it by walking around it. No group behavior prescription, or taboo influences my action for the members of my group have not institutionalized the stone by developing a definite response to it. On the other hand, a similar stone on the sidewalk of a city street is an institutional stimulus. The group has developed a common response to it, namely, to remove it and prevent an accident to some one. Observe that we may be concerned with the very same physical object, but in the one case it is and in the other case it is not institutionalized. Perhaps another way to illustrate the point is to consider a reaction to any object before and after acquiring speech responses. The infant say, may respond to his injured head in some unique and individual manner, but when he uses language he will respond in some manner common to his group. His reaction will involve the vocal expression, Kopf, head, or testa, depending upon whether he lives in a German, English or Italian group.

An institutional stimulus, then, is any object, action or circumstance which calls out a common reaction in the members of a particular group. Among such institutional stimuli we may mention buildings, actions, music, people, games, gods, etc. Some of these institutions are things, while others are actions; some have a physical or structural basis, while still others are purely cultural; but all function to call out collective reactions in particular individuals.

From our distinction it follows then that the line of division between social and individual responses cannot be looked upon as separating (1) the so-called mechanical responses due to organic structure which are called individual actions, and (2) the mind actions which are assumed to be a product of social interaction.[2] Such a division of acts into mechanical and mental, besides introducing an entirely erroneous conception of human behavior, implies a disregard of the fact that so simple an act as, say, walking, is not merely an individual action but a social response as well. Thus walking toward a shelter as a response to rain as a physical stimulus, is from our standpoint an individual reaction while walking to school is a social response.

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[2] Cf. Dewey, The Need for Social Psychology, Psych. Rev., 1917, 14, 271, et passim

We believe that our differentiation between individual and institutional reaction situations indicates sufficiently the thoroughly functional and dynamic character of an institutional social psychology. But because we have argued that all human activity consists of individual responses, and further that the difference between individual and social reaction lies in the stimulating situation we do not at all intend to create the impression that there are no differences in the responses themselves. Such a question is absolutely superfluous when we consider that no two kinds of responses are or need be morphologically identical, or even similar.

And as a further intimation that most of our reactions are social we might say that any one attempting to find illustrations of natural and institutional stimuli will be sufficiently impressed with the fact that our most ordinary and simplest reactions are social in character. The truth of this statement is found in the consideration that from the very moment of birth we are constantly surrounded with physical objects that have been endowed with various forms of human qualities. Possibly in the fact that the great mass of our reactions are social responses we can discern a definite urge for the prosecution of social psychological studies, since the belief is current that social reactions belong exclusively to the sociological field, a belief that would result in the swallowing up by sociology of practically all the data of psychology, although that discipline is not equipped with the techniques to handle such phenomena.

IV

And now we come to a consideration of the detailed subject-matter of social psychology, namely, the social mechanism. This social mechanism which we consider the unit of collective psychological phenomena is nothing but an arbitrarily chosen unit response of a person to an institutional stimulus. Arbitrarily chosen unit we say, because the social mechanism as a fact can only be obtained by an analysis involving a momentary halting of the historical behavior complex. This complex comprises the genesis of a person's psychological reaction to social objects. And these same social objects, we may further state, have been engendered through nothing else but the contacts of persons with them.

To illustrate the operation of the social mechanism let us take language reactions. Very soon after the infant is born into a community he begins to perform language responses. Now these reactions as they are built up through the course of years are acquired by a greatly changing individual. The earliest words are acquired by a person with very little background and experience and the language necessarily is halting, imperfect, and in many instances unintelligible to others. The responses later acquired, however, are much more like the models in morphological character, and why, precisely because the individual represents a much more complete human development.

But more important than this is the fact that in the course of the person's development of language responses the stimuli change and partially because the person himself contributes to the modification and improvement of the group language. It turns out, then, that to a certain extent the improvement of the individual's own language reactions is due to the fact that the language stimuli are enhanced by his own reactions. We might add also two other ways in which the person contributes to the development of the social mechanism. In the first place, by reacting to given stimuli the person aids in institutionalizing them, and in the second place he maintains them by providing stimuli conditions for the younger members of the group. In actual practice of course, the changes that persons bring about in their group's speech are hardly perceptible, but when we consider customs and conventions of various sorts the operation of the fluctuating social mechanism is clearly discernible.

From our inspection of the social mechanism it follows, that human nature as a series of responses is a shifting organization of reactions depending very directly upon specific previous contacts with particular types of stimuli, both natural and social. By so tracing the origin and growth of a person's reactions to social objects we may hope to determine the mechanisms involved in social psychology and give definiteness and stability to that discipline.

Also it is manifest that the common stimuli to which the individual responds or to which he has previously responded in building up his specific nature are evolved in definite interdependence with his reactions. In different words, institutional stimuli, whether they be language, customs of various sorts, religious phenomena, or scientific traditions are developed through the specific actions of person. From a morphological standpoint it is safe to say that no closer interconnection can exist between autonomous phases of phenomena than we find to be the case in the social mechanism. In the interests of an understanding of cultural phenomena, however, we must observe that not only can the responses and stimuli be kept separate but the two phases must be kept distinct or we lose all power to interpret them.

Is it not because both philologists and anthropologists on the one side, and social psychologists on the other have not kept apart the response and stimulus facts of language that they have failed to progress in the appreciation of linguistic data? Many of the problems of language, we believe, would be well on the way toward solution merely through the recognition of the differences between what are the psychological aspects of speech, namely, the responses to institutional stimuli, and the stimuli elements, that is to say, the linguistic institutions to which the responses are made. It must be admitted, of course, that the study of language is infinitely complicated by the fact that many of the linguistic institutional stimuli are themselves to a great extent language reactions, but this should not shake our faith in a method of investigation that promises ultimately to yield an understanding of very difficult phenomena. Assuming now that to keep responses and stimuli distinct will help us to see some light in language problems, then it would appear that this would be true even in greater degree in the case of customs, religions, and other social reactions.

It may be well then to point out here that the study of the social mechanism would include the following details: (1) the study of social or cultural traits and their development through contact with cultural stimuli, (2) the investigation of social stimuli or institutions and their genesis through the common behavior of persons, (3) the process of culturalization by which persons develop their cultural behavior or social traits by being stimulated with particular institutions, and (4) the process of ceaseless change in cultural levels which provides us with the cultural history of institutions and their corresponding cultural traits.

To the first advantage which we derive from a study of social phenomena in terms of the historical and exceedingly dynamic social mechanism, namely, the ability to keep close to the actual facts of social reactions, we may immediately add another. It is this, that we achieve at once a method in the form of a workable instrument for the examination of the facts of social psychology.

V

Since the value of any scientific hypothesis lies in its functional service in the interpretation of the facts from which it is derived, so here we find that the sole demonstration of the theoretical or practical value of the hypothesis of the social mechanism lies in the insight it affords us into various important problems concerning social phenomena. And because we assume that this hypothesis is derived from observation of just such phenomena we suppose it to be of assistance to us in our understanding of them. Let us briefly consider some of these problems.

(1) To what degree an individual is a product of a group and how much value must be assigned to the rôle of individuals in bringing about both superficial and profound changes in groups are problems of serious importance in any social study. Both sorts of problems are neatly solved by the consideration that when an individual is inevitably a member of some specific group he acquires by that very fact the responses to the specific institutions developed and maintained by that group. Thus, the individual acquires particular moral attitudes, religious beliefs, social customs, intellectual prejudices, etc. And so we might conclude that the person is completely a product of his social surroundings.

But, no, this conclusion is not inevitable at all since the individual is not absolutely restricted to any specific group. Persons may move from one group to another, the groups themselves may interact through commercial, military, and intellectual enterprises, and thus the person may compare institutions and in consequence magnify the appealing qualities of each with the result of conceiving a series of institutions different from any of those with which he is in actual contact. This process of developing comparative and creative reactions to institutions is fostered in every community, no matter how far removed from other communities, since each community, comprising as it does diverse families (smaller groups) possesses an abundance of divergent institutions. Such comparison and preference of institutions we must hasten to add need never be intentional on the part of the judging person, since by the very fact of being in contact with different groups the person takes on a variety of reaction traits and is thus a potential group himself, capable of realization within his own family. In the eventuality that a person does not develop a new line of social existence, he may nevertheless still be a cosmopolitan himself, a personality bound absolutely to no group and a participant in the culture of many. An individual, then, is never inevitably a product of any one specific group or series of groups, although practically he may seem to be. But even if the possibilities of growth are provided an individual, by the presence of numerous diverse institutions, they may all fail to materialize because of definite economic, hygienic, or other conditions, and the person would then be a passive product of a single group's stimuli. That our specific hypothesis here is workable appears from the fact that individuals distribute themselves in a scale of types depending upon the homogenity of their groups and their ability to intermingle with other groups.

When a person penetrates another group and thereby acquires responses to different institutions, and when further these responses consist of knowing and believing actions, it is easy to see how an individual may transform or effect great changes in his group. Thus, for example, it is asserted that Da Ponte brought Dante and Italian culture to America and Voltaire at a certain period brought British culture to France. Since the whole problem is one of changing people's reactions to institutional stimuli we can see how greatly accelerated is this transforming process by the portability of institutions. Since many institutions are objects such as machines whole cultural conditions may be comparatively quickly and easily transformed. And equally portable and influential in the changing of cultures are moral codes and religious forms.

(2) Are not the origin, development, maintenance, and diffusion of cultural traits[3] various phases of interaction of persons and institutions? As to the origin of social traits cultural history shows us how natural objects take on value, both social and esthetic, through the development by individuals of common reactions to them. Thus we have among more primitive groups, objects, trees, and animals institutionalized. In more complex cultures while the same objects may take on social values there are innumerably many other objects and events which can go through the same process. Typical of this situation is the manner in which words and phrases are institutionalized and become instruments for good and evil in the more complex cultures. In similar fashion are social traits maintained, since the more frequently and pervasively persons react to a given object or event the more definitely and firmly established institutions become

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[3] Support for our assumption that a psychological trait is an action we find in the fact that the biologist considers biological characters to be responses to the environment, Cf. Goodrich, Some Problems in Evolution, Science, 54, 529.

and the more capable they are of stimulating other and different people to perform certain actions. In such a manner do institutions spread from group to group.

(3) The hypothesis of the social mechanism is instrumental to a necessary distinction between the environmental features of a group which do, and those which do not affect the origin and development of common responses. In a measure, then, the investigation of social reactions and their institutional stimuli may throw light upon the much debated problem whether environmental conditions can influence the development of cultural traits. Immediately we must observe that the term environment as ordinarily employed in biology cannot be taken over bodily in psychological work, since in the two fields it has very different functions. From the standpoint of the social mechanism, however, any object, physical condition, event, or action found in the surroundings of the person is capable of influencing social action, provided of course that persons build up reactions to such objects, conditions, etc. Nor does it matter much how these stimuli come to be institutionalized. But it is likewise true that the study of the social mechanism indicates that little or no cultural development can be attributed to the influence of merely the physical surroundings of people.

(4) Similarly, the fact at the basis of the belief in group minds becomes greatly clarified by an investigation of the operation of institutional stimuli and their correlated responses. Now what is this fact? Briefly, the verbal transference of a well established institution such as the "Harvard mind" into a universal or group mind. After all what we mean by a national mind, a party mind, the workingmen's mind, etc., is that they are institutional stimuli which exist or which we imagine to exist. Frequently, these stimuli live only in the telling that they exist, or they may be actually embodied or connected with actually existing things, as a legal character, some building, organization of persons, piece of land, tradition, or song. And no less frequently do we arrive at a group mind by the enlargment of the name of an institution into a community mind.

As we have stressed in a previous section it is most important to note that the group or superindividual mind cannot be in any sense a mind when the latter term signifies a reaction of any sort. Obviously when we think of actions as concrete facts these can only be individual reactions which cannot take on any of the meanings of group or superindividual minds no matter how many different persons' reactions are involved. Here is another instance of the difficulty which entangles us when we neglect to keep distinct responses and institutional stimuli.

(5) From the standpoint of an institutional social psychology we may likewise envisage the facts concerning the distribution of intellectual and emotional traits among the various cultural groups. In the first place, it seems evident that the members of specific groups can develop only such reaction systems for which they find stimulating opportunities. And since we observe that the members of different racial groups acquire similar reactions to those of other groups when similar stimuli are present, we can readily infer that no inherent differences exist in the members of the various groups. We might emphasize this point by suggesting that different groups through their members build up adaptive responses, that is, responses co-ordinating with their particular surrounding situations. Thus we find that the languages of various groups contain only such expressions as are needed for the purposes of those particular people and consequently the languages of the simpler peoples are simpler because of the simpler conditions which surround them, making it unnecessary for them to build up different and more complex language reactions.

In this connection we find very instructive the facts we learn concerning the influence of the earlier successive acquisitions upon later ones. This influence is very great, for whatever institutions are established in a group become more or less permanent bases and guides to further reactional acquisitions. Every one is familiar with the stabilizing influence which an established institution has upon the behavior of people. Since it is only by a gradual modification of existing stimulus and response conditions that the group changes we can see what great sway custom and tradition have upon the kind and number of reactions that groups build up. Accordingly the traditions of a group operate along with the necessity of its stimulating surroundings in such a way as to condition the mental traits which the group acquires. But if the study of the social mechanism shows us why it is that races have their particular reactions and why they tend to conserve them it also indicates why certain groups are more susceptible to some types of stimulation than to others, and also how contacts with strikingly new stimuli bring about relatively sudden changes when the need for them is present or other conditions make possible their occurrence. Upon such a basis we assume the so-called superiority and inferiority of races to consist primarily of opportunities to be in contact with certain stimulating situations, and of inhibiting and facilitating conditions provided by previous cultural mechanisms or behavior situations. As we have already suggested, the operation of social mechanisms are therefore essentially historical processes.

Exactly the same conditions prevail with respect to the so-called feeling or temperamental characteristics of races. Whatever reactions and institutions such traits refer to have been acquired by people through stimulation by co-ordinate institutional stimuli. When the social mechanism is studied thoroughly we can trace out the development of present stimuli to previous reactions, which previous reactions were induced by formerly existing institutions.

(6) In the light of a direct contact with the facts of social reactions it seems superfluous to point out the fallacy of looking upon the data of social psychology as exclusively the action of mobs and other supposedly abnormal or unusual phenomena. We are interested in pointing out, however, that such a fallacy became established because of a misinterpreted fact, based directly on the failure to distinguish between social responses and institutional stimuli. Because mob action was not looked upon as the responses of individuals to groups of other individuals the fact was completely overlooked that the action of such a group, or mob could constitute the setting or background of common stimuli. We look upon the mob group as merely the setting of stimuli in the sense that when everybody or nearly everybody in the vicinity is bent upon a certain action then that action appears the least hindered and the easiest to perform. According to our view the mob is nothing more than a group of persons, with their particular anger and storming, or pleasure and gaiety, conditioning the action of an individual to the common stimulus (the crime in a lynching situation). The stimulus, we assume, affects all of the individuals involved.

In other words we see in the situation a stimulus of a particular sort, which may produce in different individuals different reactions. Now when such a stimulus is reacted to by a series of individuals whose reactions coincide, then the presence of the other persons so far as any single individual is concerned, serves as a reinforcement of his action. But in case the reactions or traits of some of the group members do not coincide with those of the majority of the group the remainder of the group will then serve as a deterring setting to the dissenting member, and as an inhibiting influence. Not only has the setting or background character of the group usually been overlooked in social psychological studies, but also the fact that the group can serve as a curbing and inhibiting influence. Another and closely related basis for the mistaken notion that social psychology deals only with mob action as a unique form of behavior we find in the fact that in many cases, and it is these primarily upon which the notion was developed, the stimulus is so striking a condition and so capable of arousing common, deep-seated prejudices and habits that the action of the various members of the group serve to reinforce the reactions of all the other members, and as a consequence we have the opportunity of observing what is popularly known as a typical mob action.

We might add that it is an entirely different but no less genuine kind of situation in which the remainder of the group serves as a direct and unified stimulus to the reacting person. The reactions of the group or mob like any other institutional stimulus may serve to elicit specific kinds of reaction. Accordingly one eats, fights, prays, and otherwise acts as the actions of our groups compel us.

(7) What social progress means and how it can be achieved are problems which can be greatly illuminated and probably solved by a study of the social mechanisms concerned in such phenomena. A possible criterion of social problems may be based upon the fact that through an acquaintance with various sorts of institutions persons may determine just what institutional changes are desirable in a group and thus take steps to bring those changes about. Stress is to be placed not upon the effectiveness of our intentions to bring such changes into existence but upon the possibilities for modifying institutions along with their correlated responses. For it is entirely a matter of indifference how the changes are brought about, since our occupation with the social mechanism teaches us that progress is an absolutely relative process.

Probably the most valuable help to be derived from the hypothesis of the social mechanism at this point is that it throws us back upon what are in the last analysis the actual concrete facts of social progress as well as of all social phenomena, namely, the acts of persons. For it is only when we conceive progress to be a series of changes of specific restricted sorts relative to very specialized conditions that it can have any meaning at all.

(8) As a final commendatory suggestion in favor of the hypothesis and method of an institutional psychology we might propose the value and necessity it indicates for distinguishing between various social sciences and for the co-operation of them in the solution of social

problems. The very fact that social mechanisms consist of responses to institutional stimuli, means that a differentiation must be made between the different disciplines studying the varying phases of the social process, and it goes without saying that we must inquire whether the stimulus factor or the institutional phase is to be mainly stressed. On the one hand, a specialized study of the nature, use, and continuation of institutional objects should be rigidly and expertly pursued and on the other hand, since institutional stimuli are always the correlates of responses to them, there is an imperative need for an equally concentrated study of the reaction phases. Manifestly, the social sciences, each in turn specializing on one or the other phase, must closely co-operate in their attempts to understand and scientifically evaluate the protean phases of the social process.

VI

In concluding we might assert once more that so far as the facts are concerned there need be no doubt that an institutional social psychology may be a definite and positive psychological and biological science. But from a study of the facts belonging to the domain of social psychology we are just as firmly convinced that to make social psychology a science we must vigorously abjure two conceptions, first that we are dealing with causes in the sense that social phenomena can have inevitable conditions, and second that these causes are resident in the structural and functional makeup of the individual, namely, that all complex social phenomena are merely the unfolding and fulfillment of man's inborn impulses and needs. To be a science social psychology must allow no such intellectual anæsthesia as this type of thinking represents. Rather, to be a science social psychology must become the study of responses to institutional stimuli, and the origin and development of such phenomena must be investigated as the operation of mutual interchanges in social responses and their correlated stimuli. And in thus turning to the study of stimulus and response problems, social psychology aligns itself with what the writer considers to be the most serviceable general psychological method, namely, the examination of the concrete responses of persons to specific stimuli. As a detailed fact of social psychology we discover that any specific datum belonging to it may be referred to as the social mechanism.

Is it an undervaluation of social psychology to say that it differs essentially from the most typical of the so-called natural sciences?

Two-fold is the foundation upon which our denial rests. In the first place, since there are substantial and significant differences between facts it is inevitable that the disciplines designed to handle them must be as different as the facts. A valid criterion of the competency of a science we believe to be the question, whether its method and principles are adaptable to the facts it studies. And in the second place, from the standpoint of achieving an insight and understanding of phenomena all types of facts whether reducible to comparatively simple and rigid laws, or whether studied as isolated complex happenings not subject to inflexible laws are equally important and valuable. What really constitutes a scientific discipline is persistence in the pursuit of our phenomena and constancy in our aim to confine ourselves to a study of observable facts.

Probably the most outstanding difference between social psychology and the typical natural sciences is that the latter aim to modify physical things and natural processes, while the cultural sciences move toward control of human actions, whether directly or through the modification of the stimuli to such action, namely, acts, customs, etc. It follows from the alliance of social psychology with the cultural sciences that it must be predominantly a field and statistical science, since the stimulating conditions under which social responses occur cannot very easily be brought under laboratory control. A minimum only of prediction can be expected, therefore, in the field of social psychology, while for the most part such a science fulfils more the functions of illustration and interpretation, with only an occasional attempt at the direction of human action.

But withal, institutional social psychology may be considered a definite science, all the more so indeed because it is not based upon an arbitrary theory of fixed causes which would obviously remove it far from any factual situation. Our faith in the institutional suggestions that we have offered for the qualification of social psychology as a science arises precisely from the fact that such an institutional conception is derived from the fluctuating and modifiable phenomena which themselves constitute social reactions. And further, because we believe that besides the physical sciences there can be and are disciplines which investigate and evaluate facts just as they occur in nature, we feel confident that social psychology may take its appropriate place in the domain of the positive sciences.

WORK WITH SOCIALLY MALADJUSTED GIRLS

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THE organization whose problems are set forth in the following pages, had its beginnings in a very definite emergency in the city of Cleveland. This city had at one time a segregated district of houses of prostitution, which in 1915 was, with one ordinance, abolished. Inside of 24 hours, therefore, the houses were closed, and crowds of young women and girls were on the streets, or sitting on their suitcases in the railroad station, irresponsibly waiting for whatever might happen to them next. It was obvious to the most callous observer that something had got to be done to protect them from the public and to protect the public from them, and for that immediate purpose the Women's Protective Association was started, with one field worker and an office at the Police Station.

From these beginnings the association has expanded so that in six years there are nine field workers, a liaison worker who divides her time between the police court and the association, a psychologist, and an executive secretary in charge of all. The offices are in the center of the city, with seven consultation rooms and there are two houses in which the girls under investigation may be placed until some further disposition can be made of them. The first is Sterling House, a well built attractive dwelling house, accommodating thirty girls. Although the problem of the prostitute is constant and influences every situation, there are also in Sterling House, runaways and shoplifters, deserted wives and homeless strays, who find shelter within its walls. Here our young women must stay until they have a hospital examination, until their stories are verified, and their difficulties thoroughly sifted. After Sterling House they are sent home, placed at work, or committed to an institution as the case may be. If they obtain work in the city, they are still under the supervision of their particular field worker no matter where they live. If they desire however, they may live at the second association House, Prospect Club, which is run by a Matron and by the girls themselves and where they may live for $6.00 a week. The association is supported by private contributions and by the City Community Chest. Its object is to handle cases out of court so far as possible, to save the overworked court on the one hand, and if possible, to save the girl from a court record on the other. Although the association has no legal right to arrest any one, or to force penniless girls or women of questionable character to accept its ministrations, it has the good will of the authorities who have this right, and they make it possible to give the individual in question the choice of being handled through the association, or of being arrested in the usual manner, and handled through the court. Most of them choose the association and prefer Sterling House to the Police Court or the Jail.

Every girl is given a mental examination upon her arrival. If her case must go to court the examination goes with the report to the judge. If she is sent home, returned to her work, or recommended to an institution, the record is passed on to whomever it may concern. The Psychological clinic has only been a regular part of the association for a few months, so this report can only be made of the 178 cases, which comprise three months' entries. The Standford-Binet test was given as a preliminary with every case and the average mental age was found to be 11 yrs. 8 mos., although the average chronological age of the girls was 19 yrs. The charges against them, or the difficulties for which they asked assistance, were as follows:

Immorality — commercial and otherwise	89
Vagrancy and out of work	28
Runaways from home	22
Stealing — mainly shoplifting	20
Forging	6
Suspicious characters	5
Rape	3
Family difficulties	3
Murder	2

Of the 178, three had sixteen year intelligence, and twenty-seven, had between fourteen and sixteen year intelligence. If we grant that sixteen years intelligence is too high a standard for the average adult, there were still only 16% of our women of normal adult intelligence, according to the fourteen year old standard. Moreover, there were 15 adults with a mental age of 9 yrs., or an I. Q. of .56 or below, some ranging as low as .37 and .32. Despite the fact that individuals as low as this are a public menace and that every one agrees that they belong in an institution, the State Institutions are overcrowded, and the new ones though promised, are not built. No matter how much we all agree that an institution is where such adults belong, such an opinion puts no roof over their heads. In not only these cases, but in others almost as bad, it has been necessary to find positions where women of such low grade mentality can make at least a feeble effort to earn their livings. For such women there seem to be the following choices in wage earning: a low type of unskilled factory work, and housework of a simple nature where the employer is willing to put up with incompetency for the sake of getting low priced help. The factory work is usually of the nature of wrapping goods, like chocolate bars, boxes and other merchandise; sewing buttons; punching holes in leather straps; cutting paper into standard sizes and similar operations. One factory has frankly assumed it as a civic duty to take its share of morons for simple work. Several girls have made good in this factory, one at sewing and another at turning the trousers of suits right side out when they are finished. In such cases, the feebleminded girl usually likes the work for a time. As one girl said "I have a lovely job, I cut corners off the pieces of paper all day long." However, even this girl with a 'lovely job' soon tired of it, and had to be supplied with another task equally simple. In our experience, this class of labor is as easily tired as children and must constantly change to new work. Because promotions never come to them, they demand frequent lateral moves to atone for a lack of vertical progress.

Some of our girls have been under the charge of the association ever since it started, whereas, others come and go from day to day. In order to get an estimate from the field workers as to the hopefulness of their task in placing their girls at work, the writer went to each of them with a list and asked for her judgment on each individual case, both as to the success which she had observed, and the success for which she had reasonable hopes in the future. There were nine workers to consult, and it was soon evident that their estimates fell into well defined types. Certain cases were checked as hopeless under any conditions whatever outside of an institution. The term "hopeless" meant that whereas the girl had been repeatedly placed at some work within her powers, she was unable to keep at it, but continually got into trouble.

> One sample is Mary (I. Q. .49) who can do simple housework and has been repeatedly placed. She shortly becomes tired of her work, idles her time with men she meets on the street, and at one place swallowed a small dose of carbolic acid, in order to have an excuse to leave. She has been pregnant once and doubtless will be again. Nothing but a guardian continually at her elbow can prevent it. She is affectionate and amiable. She likes her social

> worker and is always glad to come into the office and report. But there is no hope in any one's mind but that she will be a constant menace to herself and others and no one but an experienced worker would have the time and strength to keep track of her irresponsible disappearances. She is the typical institutional case, entirely unable to keep out of trouble even with constant supervision.

A second class is that of those who may be successful with supervision either of the association, or of some similar organization. This class is typified by Alice (I. Q. .76) who has been under our charge for several years.

> Alice is decidedly attractive in looks and has no difficulty in getting a good factory job, drawing $17 to $18 a week. For no assignable reason, however, she is in perpetual hot water. She gets into trouble with her work, with her foreman and with the other operators. She lives at Prospect Club, but even here her difficulties require constant adjustment and soothing treatment from her special officer, who must take time to hear both sides, to labor with Alice, to explain, and to exhort. With this constant care, she has kept out of serious danger, has kept her job, and has stayed out of debt. She is a hopeful case just so long as there is a responsible person in the background for her to call upon. Recently she entered the office announcing her marriage that morning to "a man she didn't like very much." He seems to be a decent fellow, but already Alice is in tears because she is lonesome. There is no doubt that her domestic life, like her factory life, will survive only under constant care and advice from an outside source.

So much for the "hopeful under supervision class."

Another class was designated as "Hopeful with simple family life."

> Ruth (I. Q. .72) a young girl with two illegitimate children by two fathers, has proven herself very amenable to training while in Sterling House. She is a girl of simple domestic tastes, whose lack of good family influences and whose constant loneliness in an empty house, in addition to her simple intelligence, is enough to explain her bad history. She is a good housekeeper, has pleasant manners, and so far as we know, has not been promiscuously immoral, but has been faithful to her lovers as long as they were faithful to her. She feels that if she could live with a much loved grandmother, she could keep out of trouble. We hope that she may. She represents a distinct type with us — a girl who although endowed with slight intelligence, has tastes which are in keeping with her simple

> mind. She is emotionally willing to lead the only kind of life she is fitted to lead; a quiet unobtrusive family life with little money, no wage earning responsibilities, no fine clothes, no expensive amusements and no social admiration. Everything depends upon her family and the man she marries. But we have hopes that with a due amount of family affection, the lack of which caused her troubles, Ruth will keep out of further trouble.

In marked contrast to this type is the class of those whom the social workers designated as "hopeful as wage earners, but certain to prostitute."

> A sample of this type is Maud (I. Q. .85). She is pretty, but delicate, and has a bad venereal infection. She is the child of foreign parents, and was forced to marry a well-to-do suitor at 15, after having been assaulted by her own father. She and her mother were both deserted, so she must support her mother and child, which she does by working as a waitress. Her wages, however, utterly fail to account for the money she manages to provide for her family. Although she is too clever for us to detect her, we know almost positively that the extra money comes from prostitution. Moreover, we are fairly certain that it always will. Although Maud is ignorant, she has a good mind and pleasing manners. But unlike Ruth, she and her type have social ambitions, just enough above the level of their wage earning capacity, so that some other means of income besides their legitimate wages, is essential. Maud is not willing to live in the neighborhood or in the clothes which she can afford, and her expenses in feeding two others besides herself, are fairly heavy. Moreover, sex experience began with her at such an early age, that she has never developed an instinctive taboo against it, and prostitution does not offend her taste or her moral standards.

In these days when the evils of over repression are so clearly recognized, the psychologist is no less faced with the phenomenon that unless there is a feeling implanted in childhood that sex relations are to be held in check, and that there is a taboo which marks them off as different from other social relations between acquaintances or strangers, then there is little hope in trying to implant such a feeling later. These girls frankly say "We are not trained to earn enough to pay our bills. Prostitution is disagreeable work which pays better than other disagreeable work." These girls are peculiarly interesting to the psychologist, combining as they do average intelligence with a total lack of sex repression, and a direct logic in their reasoning which is entirely absent from the preceding types which we have discussed. In almost all cases these confirmed prostitutes, were early forced into sex life, either through marriage or assault. Later they held wage earning positions, but they see no reason why they should not have two sources of income. They ask us "What is our future, no matter what we do? Factory life, carrying dishes in restaurants or washing them in kitchens, marriage to a penniless man with no prospects, no friends or no amusements. We are neither smart enough, nor trained enough for anything better. If we can get a few joy-rides, shows, and some extra clothes and cash, why grudge them?" Such is the logical question of the professional. As one of them remarked "I have tried being good and it didn't pay." Our experience is, that if girls have an early adolescence free from sex assault or exploitation, they are often willing to give up prostitution in later life, even at a considerable money loss. But if they began at 11, 12 or 13 years, one's appeals are made to a sense which never has developed, and one's eloquence is wasted.

After all these classes, there is one group which we hope to be successful in the full meaning of that word. That is, we hope that the members of this group will be able to manage their own affairs without outside help and that our relation to them will be that of old friends, but in no sense that of supervisors. Eighteen per cent of our charges were voted into this group by the field workers, and if this percentage seems small,it must be remembered that our standard of success is fairly high. In some organizations any case is considered successful in the absence of any proof of actual failure. Our standards of success however, mean a certain proof of ability to succeed, rather than an absence of proof of failure, and because of the long period over which we are able to observe our cases, we can base our judgment on fairly reliable information. By less rigid standards, doubtless many of our 33% and our 8% listed below would be added to our 18%; and the resulting percentage of over half of our cases successful, would sound more flattering if not so accurate. Included in our class of those likely to succeed without supervision were various young shoplifters, immoral girls of a non-commercial type who had not begun too young, small town runaways and others. The average I. Q. for this class was .81.

The summary of the 178 cases is as follows:

30% of the cases regarded as "Hopeless — outside institutions" — average I. Q. .68

33% of the cases "Hopeful as wage earners with supervision" — average I. Q. .73

11% of the cases "Hopeless as wage earners, successful in simple family life" — average I. Q. .61

8% of the cases of "Successful wage earners, but incorrigible prostitutes" — average I. Q. .81

18% of the cases "Successful without supervision"—average I. Q. .81

It is interesting to notice that the largest class is of those judged "hopeful *with* supervision" and that their average I. Q. is .73; while .72 is the average I. Q. for the entire number of entrants since the psychologist began her work with the Association. It is with them that our time is mainly occupied, propping and re-propping adults of childhood mentality who can stand alone with difficulty, and for short periods only.

The preceeding report has been made merely with reference to intelligence quotients. The question of the psychopathic type remains to be considered. It is hard to give any figures upon this class for various reasons. One interview with a stranger cannot give much reliable information as to his psychopathic tendencies, and in order to get the required data, a period of observation is necessary which we are seldom able to secure. There is no uniformity in their intelligence quotients, for the 13 whom we have known long enough to be fairly sure that they are psychopaths, range from .57 to .93 and 1.00. The seven whose quotients are below .80, we have had a fair chance to observe over a period of time, because they have not been clever enough to keep out of trouble. Four of them, apparently manic depressives, or suffering from delusions of persecution, are now in institutions for observation. The other three must make more trouble in the community before this end is accomplished. Six others, of whose neurotic tendencies we are fairly certain, and others whom we suspect but have no means of keeping hold of long enough to be sure of our diagnosis, apparently represent a curious floating part of the population which washes up here and there and then as quietly disappears. Martha — a young woman (I. Q. .93) in a large feathered hat and with a skirt which drags on the ground in the fashion of the '90's, asks for housework. Her last employer reported her as buying many pairs of shoes, innumerable hats all on a poke bonnet model, and as peering through cracks in the door for no apparent reason. We negotiate for a position for Martha, but she suddenly disappears leaving no trace behind. Phyllis (I. Q. .80) asks for work and tells a story of riding a donkey over the United States, marrying a soldier, leaving him for four years, and now living with him again with the suspicion that another man has been substituted in his place. We discussed the story with her, a story which we disbelieve from start to finish, — then Phyllis too fades away, with her donkey and her mystic husband. Our observation bears out the testimony of others, that these romancing types pass a high vocabulary test and that their fancies relieve the tedium of a tiresome existence. If their intelligence is high enough and the psychopathic tendency not too far advanced, our experience is that they live by taking jobs and then disappearing from them, always buoyed up by the delusions which they carry hidden under their shabby hats. So far as our association is concerned, it is only when the psychopathic state is so pronounced that they are a source of serious complaint to their employers, or when their intelligence is so low, that they would be in difficulties anyhow, that we have authority or opportunity to do anything with them. It is true that we have less difficulty in getting institutional care for our psychopaths than for our feeble-minded. There are fewer of them, for one thing, and if their behavior is very erratic, they are more alarming to the public and to the court. But those whose behavior just misses this alarming stage, seem to live in a charmed world from which neither we nor any one else has the authority to snatch them. They go as mysteriously as they come, their adventures enlivening us as well as themselves. For the mild psychopath with delusions of grandeur, exciting persecutions, and thrilling though imaginary love affairs, we see no alternative, but the wandering existence which they have chosen, until they deteriorate sufficiently to become public charges. That they are liable at any time to become a menace is true enough. But in the meantime, they prefer lively fancy to humdrum facts, and we can at present throw little light upon the question of how any organization similar to ours has ability or power to keep its hands upon them. It is one of the problems with which we have next to cope.

To summarize the report of the activities of our organization, we are spending the time of 12 trained workers, an office staff, and a large and influential set of Board members in working with unfortunate women and girls and their relatives and friends. Out of a random sample of 178, there is a saving remnant of 18% who will make good by earning their own livings, maintaining decent family standards and keeping permanently out of trouble. But these figures do not quite tell the whole story. Although such a discouraging percentage of the whole number are permanent successes, even the work with the others serves a purpose. While they are in our charge, the public is being protected from irresponsible women and the trouble which they make. And even those who are not permanently successful are likely at least to be less complete failures than they were before. They may not ever look out for themselves altogether, but they learn to do so to a greater extent than if they had not been with us. The medical attention, the domestic training, and the friendly treatment which they receive, is for many the only personal attention they have ever had. The treatments for venereal infection alone, relieve a vast amount of suffering, which would otherwise be absolutely unchecked. Moreover, the Association offices are for many of them a kind of Club where they may drop in on their holidays and be certain of a welcome. Here they may ask for help in their money difficulties, for advice about their work, and for sympathy in their many love affairs which often run anything but smoothly. Even the weaker sisters who have backslidden many times, appreciate this semblance of family life which they find in the association offices and houses, and if they do not profit by it as much as we wish they did, at least they are better off than they were before.

If the public could ever be aroused to insist upon adequate institutional care for the hopeless 30% on whom our efforts are wasted except for temporary relief, our constructive activities might be indefinitely extended to other and especially to younger girls. If the average age of our cases might be 14 or 15 instead of 19 years, we are sure that our percentage of permanent cures might be much increased. Our workers if relieved from the hopeless cases, might be put upon patrol work, to pick up the younger girls at the dance halls, theatres, railroad stations and eating houses, where their troubles usually begin. If we knew them before their bad habits were too well established, the later tragedies of ruined health and lost self respect might be averted. Our workers could spend more time with the schools from whose lower grades our charges are recruited and could branch out into many lines of preventive work in collaboration with the Travelers' Aid, with policewomen, with truant officers and with religious bodies — work which is now impossible because the older incorrigibles necessarily demand first aid and attention.

When we are tempted to discouragement however, the memory of the girls who six years ago were sitting on their valises in the station, waiting for chance escorts to unknown destinations, encourages us to feel that at least some things have now, through the efforts of the Association, become impossible.

BEHAVIORISM IN THE LIGHT OF MEDICINE [1]

BY A. A. ROBACK, A. M., PH. D.
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LIKE the jurist, the physician, since the days of Hippocrates, has been working on the basis that there is such a thing as consciousness or mind; and with the rapid strides of medicine in recent times, the importance of mental functions has become increasingly evident to the members of the profession. Numerous articles and chapters in books have pointed out the necessity of understanding the facts of attention, memory, etc., for a proper diagnosis of the patient's ailment.

In the domain of mental disease, psychiatrists and alientists were constantly entering into a "give and take" relation with the psychologist who was thought to be dealing with the same general phenomena, though with a different purpose in view. As Mercier expressed the relation more than a quarter of a century ago, ". . . in order to know anything about insanity it is necessary first to know something about sanity, and in order to know anything about the disordered mind it is necessary to know something about the mind in health."[2]

To this very day, psychiatrists and psychopathologists are going about their therapeutic duties in the implicit belief that they are treating disorders of the mind, that their patients are actually afflicted with obsessions, manias, phobias, delusions and idées fixes or are suffering from this or that psychosis. Cures have been effected long before the first discussions on behaviorism had seen the light of day. Would it not be natural to conclude then that the principles upon which these medical men were operating contained an element of soundness in them, or shall we urge à la Watson that if mental pathology had been able to achieve wonders, it was in spite of itself, rather than as a result of its own enlightened initiative? Perhaps we ought to regard the psychiatrist of today with the same contempt as Molière treated the medical practitioners of his day. At any rate one cannot help spotting a tinge of dubious patronage in Watson's attempt to 'behaviorize' psychiatry. The method is very simple. There is a stereotyped formula or rather word which explains everything. This word is *habit*. Like the miracle in a by-gone theology it solves all difficulties. The deranged mind is nothing but a habit twist,[3] and once we bear in mind that thoughts are nothing but language habits, the rest is straight sailing. Let us understand then that the man who believes himself to be Nero, the woman who is repeatedly washing her hands, the old maid who is obsessed by the notion that her pastor is courting her — that these characters are not suffering from some mental disorder but are merely given to wrong habit complexes. And to refute the generally accepted view of mental disease, Watson ushers into our presence a hypothetical neurasthenic dog which behaves most peculiarly, doing everything the reverse of what we should expect it to do. The uninitiated spectators, argues Watson, take the dog to be insane, but as a matter of fact it had been carefully trained to act in that very manner, and it is not the mind but the habits that have changed.[4]

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[1] From a forthcoming book "Behaviorism and Psychology."
[2] C. Mercier: *Sanity and Insanity*, preface XVII.

But why resort to the canine world for a refutation of the functional view of certain diseases? May we not cite the case of a man who, though perfectly sane, acts as if he were insane? Are there not numerous cases on record of just this very sort of simulation carried on in order to escape from prison or captivity, a "method of madness," which goes under the name of "malingering"? These activities can hardly be called habit distortions, for, in order to become a habit, an act must have been repeated many times and must be automatic. When a man, however, goes through all sorts of antics which his sudden inspiration had called forth in the presence of great danger to his life, we are doing violence to the very definition of a habit, if we apply such a term to that type of conduct. Moreover, on Watson's criterion, the trained dog *should* be considered deranged, for what matters it in what way the habit distortion has come about? The fact remains that the habits of the dog are now unlike those of the normal dog, accordingly treat it like any other mad dog.

On similar grounds, the man who asserts daily that he is the King of China must be declared to cherish an obsession regardless of whether he actually believes his statement or not. The distorted habit is undeniably there, and since we must not inquire as to his ideas or consciousness, the only test we have to go by stigmatizes him at once as one possessed of a diseased personality. *Again* I must make it clear that to refer to the importance of behavior as a criterion of one's sanity is altogether beside the point. Most assuredly it is an invaluable guide towards a diagnosis, *but a guide only, not an objective.* We are not primarily concerned with the endeavor to ascertain whether the patient's behavior is queer, but whether his mind is disordered, *whether he is really a patient*, in the etymological sense of the word.

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[3] J. B. Watson: *Psychology from the Standpoint of a Behaviorist*, pp. 418–420 and *Behavior and the Concept of Mental Disease.* Jour. Phil. Psych. and Sci. Method, 1916, Vol. XIII p. 592.

[4] J. B. Watson: Behavior and the Concept of Mental Disease, *lac. cit.* pp. 593–594.

From what we know about multiple personality and other dissociations, it would be easy to argue against the 'habit twist' theory of mental disease. The sudden emergence of the Sally personality in the Beauchamp drama[5] leaves no room for the formation of habits represented in Sally's conduct. It is all very well for Watson to set forth that the habit distortions may and do often start in infancy[6] but unless we assume that prior to the appearance of the Sally personality, there were gaps in Miss Beauchamp's consciousness and motor activity, the learning of certain tricks at which Sally was a master could not very well have gone on.

The conception of mental disorder as a wrong habit complex will, on close analysis, be found to contain a *petitio principii.* What is our criterion of right and wrong in habit formation? Why call one series of reflexes distorted and another regular? If for the reason that the individual in the one case is unable to exploit his reflexes advantageously, it would not be difficult to cite cases of abnormal habits which might prove serviceable to their exerciser by bringing him in an income at certain places of public amusement, yet the man would none the less be regarded as psychopathic. The line of cleavage that must be drawn between the sound and the disordered mind is to be sought rather in another direction — in the faculty of *control* which is decidedly a *conscious* function and not in the difference between a right and a wrong habit which cannot be determined except *ex post facto.* In a certain respect, all geniuses may be said to have acquired distorted habit complexes.

In order to revolutionize psychiatry and introduce a new conception of mental pathology, it would be necessary to give detailed treatment to a number of cases on record and to offer behavioristic equivalents to the many serviceable terms current in psychiatry and psychopathology that are rooted in traditional psychology. To employ a blanket term like habit to phenomena widely varying in character is hardly in accordance with scientific procedure.

The conclusion of Watson's article on the concept of mental disease is typical of the impatient and sanguine temperament which characterizes the whole school.

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[5] M. Prince: *The Dissociation of a Personality.*

[6] J. B. Watson: *Psychology from the Standpoint, etc.*, p. 419.

"To apply this in detail in functional cases" he pleads, "overtaxes my ability as well as my present interests. At any rate the suggestion seems to me to give a reasonable clue as to the way in which such shifts in the emotional constituents of a total integration can occur. Surely it is better to use even this crude formulation than to describe the phenomenon as is done in the current psychoanalytic treatises."[7]

Could we have expected that such a feeble plea would persuade psychiatrists to revise their terminology as well as their methods? Need we be surprised to learn from an eminent psychiatrist that "the paper in question was an extremely naïve and simplistic presentation of the problem of mental disease"? It is a pity that Jelliffe in his reply to Watson wields Freudian weapons instead of disarming his opponent by reducing his objections and charges *ad absurdum*. Much of what Jelliffe has to say on this score will appear irrelevant to the particular issue between behaviorism and mentalism — indeed it seems as if he has come not to answer Watson but to praise Freud — but his criticism of the behavioristic attitude is both virile and eloquent enough to afford the psychologist a glimpse into the situation from a new angle.

The following detached quotations from Jelliffe's article will no doubt be helpful to the reader who is not disposed to read it *in toto*.

"Behaviorism scanning but one plane must necessarily be blind to the necessity and utility of such a concept which reaches profoundly into certain very real factors, which seem to extend beyond the purely mechanistic automatic and reflex means of response. It cannot conceive just wherein lies the apparent complaisance of the physicians in the acceptance of this concept to which the urgency of human actualities compels them. They find in referring the pathological phenomena under consideration to the 'purely mental' that they are provided with a concept of dynamic power, a workable tool which penetrates causes and beginnings and provides a means of re-education and redistribution of effect involving adequate discharge, before which the colorlessness and ineffectualness of an ideal behavioristic re-education plainly reveal themselves.[8]

"There can be no doubt that psychoneuroses have brought about 'habit twists' which have become a faulty equipment in the patient's reactions to life. To acknowledge this is by no means to lose sight of the relation of these habit twists as only forms of expression of a self that is more than a complex and co-ordinated system of language habits and bodily habits. . . . The very fact that the patient cannot phrase in terms of words the habit twists which have become a part of his biological equipment would imply that there is something more than merely bodily habit twists.

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[7] J. B. Watson: *loc. cit.*, p. 596.

[8] S. E. Jelliffe: Dr. Watson and the Concept of Mental Disease. *Jour. Phil. Psych. and Sci. M.*, 1917, vol. XIV, pp. 269–270.

. . . "Speech is no more capable than any other mechanism of taking the place of affective functioning, but is one of the vehicles through which this is given discharge, an implement which the same affective impulses first formed and are still perfecting for their use. . . .

"Neither is it enough to attempt to locate a something 'corresponding in part at least to the affective values of the psychologists and pathologists,' something with which the author supplements the motor habits which have so far occupied his discussion in the response of the glandular system. The effect of emotion there is plain to be seen and growing more definite to the understanding with the aid of experimental physiology, but to confine effect there is another matter altogether."

A REVIEW OF SOME PRESENT TENDENCIES IN SOCIAL PSYCHOLOGY

BY ZORA SCHAUPP

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I

INSTINCT THEORIES

IN spite of many optimistic assurances that Social Psychology is at last on its own feet, there seems to be no evidence that it is yet in a condition to dispense with the crutches lent it by Psychology. For a time it seemed to be getting along very well but its props were changed and now it flounders weakly. A short time ago we were daily receiving enlightenment on many vital social problems, on the group mind, crowd behavior, instincts basic in the social order. But psychology has now called for a re-examination of these concepts and we must stop and take stock of our resources before we proceed.

Park[1] in a brief survey of the progress of social psychology, which he does not distinguish from sociology, outlines its development from a philosophy of history to a science of society, defining the first stage of this transition as the period of Spencer and Comte who regarded sociology chiefly as a science of progress. The second period is that of the schools when the aim was to define the point of view and to describe the facts that would furnish an answer to the questions of sociology. In the third period, which we are just now entering, emphasis is laid on investigation and research, — a mode of approach analagous to the introduction of laboratory methods in the science of psychology. Park also classifies the problems for social research and outlines the social groups that present all of these problems, their organization and structure.

The most fundamental problem that social psychology has to deal with is that of human nature, but at the first attempt to investigate it the student becomes involved in the instinct controversy. Wallas[2] says, "In approaching the complex dispositions into which the facts of human nature can be divided for the purpose of social psychology, it is convenient to begin with the instincts." And although some psychologists are willing to forego this convenience, they too are obliged to begin with the simplest of human responses and determine how social behavior is built up, if, as they say, its roots are not innate in the individual. Few, perhaps, belong to this radical faction, but the challenge has been given and it behooves the defenders of instinct to look into the concept before they meet its adversaries.

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[1] Park, Robert E., "Sociology and the Social Sciences", Am. Jour. Soc. September, 1921.
[2] Wallas, Graham, "The Great Society", p. 33.

An examination of the current theories of instinct is made by Hocking[3] with a view to obtaining a more consistent and useful definition of the term. In its present state it carries a double connotation, meaning at the same time a "mode of behavior" and a "mode of interest"; and while for technical purposes we should not use a concept that mixes "physical with mental ingredients" if we are to describe the facts adequately we must recognize the introspective side, the general interest trends, as well as the more specific mechanisms we observe in the behavior of others. To try to reduce the former to terms of the latter and explain instinct as a complex series of reflexes is to omit the real issue, — to explain manipulation without curiosity, for example. And if the strict behaviorist then denies that curiosity, love, hunger and the rest are instincts, we are still obliged to explain these values of life and the fundamental interest trends for which they stand. By making use of an "instinctive regulation of instinct", an "instinctive preparation or readiness", we may gain a conception that recognizes both aspects of the term. This instinctive set or "dominant appetence" of the individual is what Schopenhauer describes as the "will to live", Nietzche, the will to power, Freud and his followers, the "libido". A definition of instinct finally proposed is this: "any specific form of the will-to-power which reaches its end by the use of innate motor mechanisms common to the species." Its author acknowledges its hybrid nature but maintains its inherent consistency in spite of this and its greater usefulness because of it.

The neglect of the gregarious instinct is responsible, according to Trotter[4], for the confused and inadequate explanation of complex human behavior in terms of instinct. Not only is this instinct equal in biological importance to the others but it has the added significance of modifying and controlling their expression. Woodworth[5] criticizes the common conception of this instinct as simply a desire for the presence of others, an impulse to herd together, or, as McDougall conceives it, an expression of the self assertive tendency, and feels that we must regard it rather as an instinct for common activity, for association as equals. Man has a native capacity for group activity, and a simple desire to exercise this capacity, an interest in the activity for its own sake, is a sufficient drive and needs no additional self-seeking or altruistic parental instincts to call it forth.

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[3] Hocking, Wm. E., "The Dilemma in the Conception of Instinct as Applied to Human Psychology", THIS JOURNAL, June-September, 1921.

[4] Trotter, W., "Instincts of the Herd in Peace and War", pp. 17, 18.

[5] Woodworth, "Dynamic Psychology", Chapter VIII.

In an article on "The Group As An Instinct", H. A. Miller[6] also emphasizes the fundamental importance of the group instinct. The generalized social instinct he regards as insufficient to account for all of the facts, and holds that loyalty itself is instinctive and that gregariousness is the sublimation of a prior group instinct of which patriotism is the emotional side.

Ellsworth Faris[7] reviews the status of instinct in the theories of leading psychologists from James to contemporary writers and reaches the conclusion that sociology has gone astray in using instincts as hypotheses instead of devoting itself to the classification and explanation of such empirical data as attitudes, desires, wishes, etc. He admits that "it is a question whether human nature does inherit specific instinctive patterns", and is inclined to regard man's only native responses as reflexes, "specific, invariable and uniform." If, however, there are such native tendencies they are subject to such wide modification by environmental factors that the concept is valueless for sociological purposes and sociology might do better if it devoted its energy "to an attempt to analyze and isolate the temperamental factors in complex social attitudes." Hunter[8] deals more fully with this subject of modification both in its sensory and motor aspects, either prior to or subsequent to its initial appearance. Of value in describing the process is the concept of sublimation, which is the turning of an instinctive impulse into other channels "by the transference of one behavior component from one total response to another through the so-called conditioned reflex type of association." For Hunter, however, the fact of modification apparently does not render the concept valueless for we must take account of what is modified no less than of the modifying forces.

For a reshaping of the conception of instinct Kantor[9] thinks it is necessary to turn away from the school of physiological psychology which has failed to interpret social phenomena in terms of properties of biological organisms and to found the explanation of such phenomena on a concrete stimulus-response basis, adopting a functional view which assumes the data of psychology to be concrete adaptational responses to surrounding things.[10] An instinct, as this implies, is a "simple and direct response to a specific stimulating object or condition" and develops in the species in its interaction with environment.

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[6] American Journal of Sociology, November, 1921.

[7] Faris, Ellsworth, "Are Instincts Data or Hypotheses?" Am. Jour. Soc., September, 1921.

[8] Hunter, W. S., "The Modification of Instinct from the Standpoint of Social Psychology", 2. Psychological Review, v. 27 p. 247.

[9] Kantor, J. R., "How Is a Science of Social Psychology Possible", THIS JOURNAL.

A concise and critical treatment of behavioristic psychology by Smith and Guthrie[11] represents well the tendency on the part of the majority of the adherents of this school to weed out in their definition of instinct all response that cannot be ascribed to inherited structure or that can be explained as conditioned reflex and at the same time avoid an over-simplification, i. e., an attempt to reduce all behavior to one or two fundamental instincts. The authors point out that many of the group responses and their emotional expression are often called instincts when they are really habits which, due to similarity of original structure and a commonly experienced world, are acquired by all alike.

A similar attitude is taken by Bernard[12] who defines instinct as a definite action pattern, an inherited structure, which remains both in structural and functional organization practically the same and is basic to the life of the individual and the species. Defined thus, instincts would be "simpler, more elemental and more numerous" than those enumerated by most psychologists, reaching up into the hundreds or even thousands if we include reflexes. He regards McDougall's treatment of instinct "in terms of its complex functioning" instead of its original structure as "nothing more than mystical apriorism." Most of our responses are built up to meet temporary situations and in the case of the so-called delayed instincts, society has developed in the individual such habit controls that instinctive action before its appearance is restrained and sublimated.

The most extreme statement on this subject comes from Kuo[13] and almost reduces to an absurdity the whole movement of which it is the outcome. Mr. Kuo's article is significantly called "Giving Up Instincts in Psychology", a title somehow carrying the implication that the theory is an extinct one and needs only a consoling obituary.

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[10] "A Functional Interpretation of Human Instincts", Psych. Rev., v. 27, p. 50.

[11] Chapters in General Psychology, Chapter VII.

[12] Bernard, L. L., "The Misuse of Instinct in the Social Sciences", Psych. Rev., March, 1921.

[13] Kuo, Zing Yang, "Giving Up Instincts in Psychology", Journal of Philosophy, November 24, 1921.

The author quotes many definitions representative of the biological and psychological points of view and marshals the *addenda* and *corrigenda* proposed by writers in both fields with a view to showing the utter unreliability of such an unstable conception. His thesis is that the "so-called" instincts are in the last analysis acquired trends rather than inherited tendencies. There is the same objection to the old conception of instinct as to the doctrine of innate ideas; "they both assume *a priori* relation of the organism to external objects." No actions are instinctive which do not appear at birth or shortly after and the so-called delayed instincts are the result of the later maturation of action systems, — wings, etc., in the case of flying — or to new situations that call out new responses. (Kuo seems not to have the same objections to a matured arm or leg as to a matured co-ordination of neural patterns.) Such variable and complicated responses as the assumed instincts could not have the definite inherited neural pattern that genuine instincts are supposed to have.

An answer to many of Mr. Kuo's allegations might be found in Crile's "Man an Adaptive Mechanism", a book which interprets in the light of the best physiological and biological evidence obtainable many of the phenomena of human behavior. Crile holds that all of man's adaptive behavior can be reduced to the simple stimulus-response reaction which consists of three stages, adequate stimulus, conduction of stimulus, and chemical and motor end effects. A few simple, fundamental adjustments are at the root of both human and animal behavior but man's superiority is due to the larger number of his action patterns and the greater degree of integration that enables him to respond as a whole. To many of life's vicissitudes man has become more or less adapted and his chance adaptation has been perpetuated in definite nervous and muscular structures. "It is now as reasonable to explain a muscular reflex or an internal secretion by its utility in the life of the organism as to explain the webbed foot of an amphibian or the teeth of a carnivore on the same basis." (p. 44.) A thoroughly mechanistic conception of life does no violence to a scientific interpretation of instinct, and Crile holds that "man's two most complete adaptations are those of killing and procreating and the most powerful activator of his kinetic system is his fellow man."

An able refutation of the chief arguments advanced against the notion of instincts comes from W. R. Wells[14] who points out clearly the principal weaknesses and fallacies of the opposition. The main defect in their criticism, he says, lies in the misuse of the biological terminology of heredity. They talk of instincts as "acquired" characters, regarding as acquired all individual characteristics which need environmental stimuli for their development. But in the same sense we could speak of any inherited feature as being acquired since somatic characters too are not only determined by the germ plasm but are dependent upon a certain constant kind of external stimuli for their proper maturation. Wells finds in the work of Cannon (who is substantially in agreement with Crile) valuable suggestion as to a possible relationship between emotion and instinct, for if the action patterns involving the autonomic system and unstriped muscles, which are closely associated with instinct, are inherited why should not the action glands and skeletal muscles which make up instinct proper be likewise hereditary? The work of Loeb furnishes evidence that a conception of "instincts as complex as the food instinct, the sex instinct, the parental instinct, locomotion, gregariousness, and even the instinct of workmanship" is not incompatible with the strictest biological principles and scientific methods. The instinct theory needed some revision, it is true, but the reaction has gone too far when it ignores or seeks to discredit the sanest teachings of science.

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[14] Wells, Wesley R., "The Value for Social Psychology of the Concept of Instinct." THIS JOURNAL, Dec, 1921-March 1922; p. 334.

II

THE "GROUP MIND"

The subject of the group mind continues to be discussed,[15] although there no longer seems to be any misunderstanding as to its correct usage in scientific terminology at least. Most authors feel it advisable, however, to preface any treatment of collective psychology with an introductory remark to indicate that they are aware of its connotations, lest a malicious critic seize upon what is only a legitimate use of metonymy.

Park[16] presents a brief historical review of the subject from Comte and Spencer to contemporary sociologists, showing how two traditions of social nature have grown out of their respective teachings. Both Spencer and Comte recognize the analogy of the individual and the social organism, and also the essential difference, viz., the absence in the social organism of a general sensorium. Renè Worms said that we must assume a social consciousness even without a sensorium since we see evidences of it everywhere. The question then, of the nature of "the mechanism by which the group imposes its control upon its individual members" is a fundamental one for sociology. It has been answered in all ways from "Man is a political animal" to "War of each against all." There are those in modern times who explain social behavior as due to a gregarious instinct, (Trotter); to the fact of like response to like stimulus, (Giddings); to the existence of a common purpose, (Emile Durkheim); and there are some perhaps who retain a notion of a super-individual consciousness of which conscience is a manifestation, and others who use the term mind, for example the "urban mind", without being clear whether they are referring to a collective or a typical mind. Park gives the following definitions and comparison of psychology and sociology: "Psychology is an account of the manner in which the individual organism exercises control over its parts and of the way these parts co-operate to carry on a corporate existence; sociology is a point of view and method for investigating the processes by which individuals are inducted into and induced to co-operate in some sort of a corporate existence which we call society, it is the science of collective behavior."

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[15] I refer to controversial literature on terminology and not to standard works on Group Psychology, such as McDougall's "Group Mind."

[16] Park, Robert E., "Sociology and the Social Sciences", Journal of Sociology, v. 26, p. 401.

In an article on *The Comparative Rôle of the Group Concept in Ward's Dynamic Sociology and Contemporary American Sociology*, Bodenhafer[17] seeks to show the continuity of social theory and the development of scientific method "expressed in Dr. Small's words as 'the drive toward objectivity.'" The difference between Ward's point of view and the modern one may be summarized in the contrast between the two hypotheses, individual vs. social. Contemporary sociology starts with the group as the fundamental unit and develops the individual as a part of the social process but does not consciously subordinate the individual. It tends to be pragmatic rather than metaphysical and makes no attempt to find in society a mystical social mind existing apart from the actual persons that make up a situation. Baldwin, in this author's opinion, represents the change of attitude from the old to the new sociology and the behavioristic movement in psychology is part of the transition.

For Gault[18] the term "group mind" is permissible if it is understood to mean the "facts, theories, ideas, traditions, etc., that are held in common by the members of the group: . . . a system of individual minds each complementing and reciprocally implying the other", and not "a super individual mind, one that co-ordinates and unifies individual minds." There is a unity among members of a group because each individual knows how far the other's attitude is like his own, he "mentally represents" others in his group, "their fields of attention overlap." Bodenhafer would probably class Gault with the older school as holding a somewhat subjectivistic position in making the individual the starting point for the understanding of the group.

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[17] Bodenhafer, W. B., "The Comparative Rôle of the Group Concept", Amer. J. Sociol. v. 26, p. 273, 427, 716.

[18] Gault, R. H., "The Standpoint of Social Psychology". THIS JOURNAL, April, 1921.

Another more novel comparison of the individual to society comes from Thomas D. Eliot,[19] representing the psychoanalytical point of view. He points out that there are the "high brow" and the "low brow" elements existing in both, the subconscious corresponds to the inarticulate public, suppressed complexes are the submerged tenth, the focus of attention and behavior have their analogy in dominating class activities, individual sanity represents social justice, while relative normality is the harmonious organization of impulses to a given environment. Group formation results "whenever an environment is such as to stimulate a similar set of behavior mechanisms with similar effects in a considerable number of people."

Giddings[20] on the Behaviorist side, reaches conclusions somewhat in line with those of Eliot. He explains like-mindedness as "the sum of like reactions, instinctive, habistic and rational." Like behavior occurs, because of a similar environment and similar reacting nervous mechanisms, hence what appears to be imitation is really reaction in the line of the least resistance, which resistance is least in like organisms. McDougall and Trotter who refer crowd behavior to a herd instinct are reversing cause and effect, says Giddings. A consciousness of kind is the "consciousness in human individuals of their differences . . . and of their similarities, through observation and comparison of their behavior, including conversation", and such consciousness is necessary for a society that is anything more than mere gregariousness. One of the chief laws of pluralistic behavior is that "the percentage number of individuals participating in a collective decision diminishes as the intellectual quality of the decision rises" since there are more people alike in sympathies than are alike in beliefs and more alike in beliefs than in critical intelligence. As in the individual mind deliberation grows out of a conflict of reactions, so as a social phenomenon it arises when group reactions to a common stimulus conflict. The social mind is only the phenomenon of individual minds similarly reacting in reference to and upon one another producing a conformity to a type by mutual constraint and discipline. The latter part of the article deals with "The organization of collective interest" and here the author has defined certain social and economic concepts. A protocracy consists of those individuals reacting most effectively in commanding situations and creating new ones to which other individuals must adjust themselves. Socialism is excessive standardization and deficient adaptability while individualism is a working combination of enough like-mindedness for collective effectiveness with enough unlike-mindedness for organization and progress.

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[19] Eliot, T. D., "A Psychoanalytical Interpretation of Group Formation and Behavior", Amer. J. Sociol., v. 26, p. 333.

[20] Giddings, F. H., "Pluralistic Behavior", Amer. J. Sociol., January-March, 1920.

For Allport[21] the key to group behavior lies in the neuromotor system of the individual, and the appearance of unity in mob behavior is due to the uniform response of the crowd to a leader and not to a crowd consciousness in which each individual feels himself a part of the whole. The rôle of the group mind has been overstressed in social psychology and undue emphasis has also been placed upon instincts to which have been ascribed a teleological power of equipping the human being for life adjustments. There may be certain innate physical patterns of response but they are purely individual, and only as they develop in interaction with the environment may they be called social responses. "Social Psychology studies those responses which are conditioned in whole or in part by the social surroundings." (p. 300.) Such responses to social stimuli play an important part in the behavior not only of infants but of lower animals as well, and there is strong evidence that their adaptability and hence their educability is greater in the matter of social than of non-social objects. Social phenomena of this type can be studied by observing the growth of social behavior in children and by the experimental study of the individual's reaction to social attitudes, emotions, expressions, pantomime and conversation. Another class of social responses are those made to non-social stimuli but having their form modified by accompanying social factors. A social stimulation may be defined as the stimulus resulting from the behavior of others which arouses a definite response. In investigating this second type of social response Mr. Allport has conducted experiments which yield much valuable data upon the quality and type of work done alone as compared with that done in the presence of others.

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[21] Allport, Floyd H., "Behavior and Experiment in Social Psychology". THIS JOURNAL, December, 1919, p. 297.

A Freudian interpretation of crowd behavior is that of Martin's,[22] a keenly analytical, delightfully satiric exposure of the psychology underlying that disconcerting type of human frailty. The growing habit of acting as crowds is a menace to civilization and personality. Vulgarity has become a prerequisite for success, we think and behave as a crowd, we are "mere banner toters." It is probable that "the same laws that underlie the wish fulfilling mechanism of dream formation determine also many of our crowd ideas, creeds, conventions, and social ideals." Crowd ideas are the result of "complexes", they are "fixations", and the crowd self is analogous to a "compulsion neurosis." The crowd is appealed to on a lower level. As long as the discussion is impersonal, exacting of attention, free from platitudes, popular belief and dogma, the audience remains critical; admit these and it is transformed into a crowd. It is a creature of hate, egoistic, demanding conformity of all of its members, and in America particularly we suffer from its domination. The most disquieting fact of all is that the metaphysician is unhealthy minded and idealistic philosophies are crowd philosophies. (pp. 141–153). The cure which the author suggests for this pathological social state is "a conscious recognition of this desire and its more deliberate and voluntary resistance in ourselves . . ., a candid facing of the fact of what we really are and really want, and a mutual readjustment of our relations on this recognized basis", like the cure of a neurotic by revealing to him his unconscious wish. (p. 165).

"The motive professed by the crowd is not its real motive"; says Martin, "the repressed wish has unconsciously given to the formulas the crowd professes a meaning different from that which appears but unconsciously associated with it." This conception receives further elaboration and wider application by Taylor[23] who sees another side to this phenomenon of "rationalization." Professing reasons different from the true ones offers protection for our impulses but may also defend us against them by a stressing of the opposite tendency. All rationalization springs from the "desire for that unity which spells success in meeting the problems of life", and in professing a worthy motive we are enabled to maintain a standard of conduct by auto suggestion, i. e., convincing ourselves that it is our true motive, and by the social expectation that keeps us consistent with our advertised reasons. He agrees, however, that "a reduction of the quantity of rationalization would result in gain both for individual sanity and social welfare."

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[22] Martin, E. D., "The Behavior of Crowds."

[23] Taylor, W. S., "Rationalization and Its Social Significance." THIS JOURNAL, Dec. 1921-March, 1922, p. 334.

An Outline of Abnormal Psychology. By James Winfred Bridges, Assistant Professor of Psychology, University of Toronto. Second Edition, Revised. Columbus, Ohio. R. G. Adams & Co., 1921. Pp. 158, + 68 blank.

This volume appears to be a skeleton-syllabus of a college-course of lectures on mental derangements, with a long introduction (more than half the book) on normal mental processes. The foreword exaggerates somewhat in saying that "it presents a fairly complete list of the abnormal mental phenomena" as any state-hospital man can see at a glance. It devotes a third of a page to Kempf, and fails to tabulate the classification of mental diseases promulgated by the American Psychiatrical Association and the national mental-hygiene committee.

"It should of course be regarded as mainly *directive and mnemonic*," says the author in the foreword, and in this adequate warning lies its complete sanction as an "outline of abnormal psychology." As one might expect from an academic professor of psychology, the material is not always quite up to the professional psychiatric times, although part at least of the obsolete matter is not improperly part of a lecture-course, for it lends historical perspective. For example, on pages 154 and 155, the discussion pro and con, of the causes of paresis might be condensed to a statement that it is a form of syphilis, — in a book dated 1921.

"Psychology is the science of consciousness" or else "the science of human behavior," in which latter case it "is not psychology in the traditional sense." The author straddles (but gracefully!) these two views, just as he does the "mind-twist" and the "brain-spot" "explanations" of abnormal phenomena. But how he does shy at Kempf!

As a topical list for students to choose literature from, and on which they may check off their psychiatric progress, the book is a distinctly useful one. The bibliographic items (placed at the chapter-ends) and the numerous blank pages materially aid this use of the volume, so that it certainly has value outside of Professor Bridges's own lecture classes. One should not expect it to replace Jelliffe and White, Church and Peterson, or Kraepelins's "Psychiatrie"! (And yet this is exactly what some repleted students will do — and think themselves already psychiatrists; and criticize all manner of intricate mysteries in numerous periodicals — even as you and I.)

George V. N. Dearborn.

Essentials of Social Psychology — (Revised and Enlarged Edition). By Emory S. Bogardus, Ph. D., Professor of Sociology, University of Southern California. Univ. of Southern Calif. Press. September, 1920. Pp. 287.

Professor Bogardus believes that the task of social psychology is, first, to explain those mental attributes of the individual which are directly involved in his social adjustments, and then to show how the group itself is composed of independent personalities, how it functions as a whole, and how it controls the individual. Thus social psychology is conceived to be "psychological in its origin and sociological in its outlook."

Among the psychological determinants of the social behavior of the individual, instinctive reactions are held to be fundamental. The author apparently adopts uncritically the schedule of instincts proposed by Professor McDougall. The personality is essentially composed of such innate responses, with a varying number of conscious or habitual modifications which come into existence when an instinct fails to function successfully in a new situation. The rôle of the emotions and sentiments, as well as of the instincts, is primarily egoistical. The task of socializing the personality, therefore, requires a careful analysis of man's *social* capacities which may be utilized to make the instincts, emotions and sentiments acceptable to the society in which he lives. Among the attributes which make for this process of socialization, the author discerns the following: communicativeness, mirthfulness, and social dependability. The suggestion-imitation phenomenon is an unvarying social law which conditions the arousal and development of these traits. Fashion, custom, convention and craze are manifestations of the principle at work in society. Invention and leadership are likewise held to be important assets of a personality, for only by the exercise of these can social progress be realized. The author, satisfied that he has analyzed the psychological substrate of the social behavior of the individual, leads us now to a consideration of group phenomena.

In both temporary groups and permanent groups we are at once faced with the problem of conflict. The dialectic of group struggles is a subject of primary importance to the social psychologist. The author wishes to recognize both the economic conflicts and the psychological, and accordingly gives weight both to Carver's theory of social evolution and Tarde's laws of social development. These theories hold that society advances only in proportion as the destructive competition and deceptive behavior give way to productive competition and discussion. The principles laid down regarding the agencies and types of social control are in the main based upon the formulations of Professor Ross. The most important influences for control are custom, taboo, personal belief, law, government, education, art, and public opinion. The author summarizes his principle thesis as follows: "Social progress is determined by the amount, quality, and methods of social control, and upon the intensity, quality and persistence of individual initiative, inventiveness, and leadership."

The chapters in which the foregoing sociological theories are developed are clear and commendably concrete. The portion of the book, however, which deals with the psychology of the individual seems inadequate in the light of recent contributions which materially aid in understanding the problems of personality. Studies of immense importance to the social psychologist have been made within the past decade by psychoanalysis, clinicians, and experimentalists. The social psychologist can no longer appeal for authority solely to outworn conceptions of imitativeness, gregariousness or complex social instincts. He must keep abreast of the times, which means that he must utilize the best of the material currently produced on the subjects of individual differences, emotionality, volition, normal and psychopathic personalities, and character traits. There can be no doubt that the principal problems with which the book treats, such as the social behavior of the individual, language, crowd and group phenomena, and social control, are all true data of social psychology. It is something to have outlined the field and to have suggested a large number of concrete problems which need psychological explanation; but the demarcation of province and the setting of tasks is only a beginning. We must look to the future to produce a book which will interpret and elucidate these problems in the light of modern, scientific psychology. G. W. A.

PSYCHOLOGY OF THE OTHER-ONE: AN INTRODUCTORY TEXT-BOOK OF PSYCHOLOGY. By Max F. Meyer, Professor of Experimental Psychology in the University of Missouri. Columbia, Missouri. The Missouri Book Company, 1921. Pp. vi, 439; illustrated. Price, $3.00.

AS the possible reader already has been adequately informed, this book is from Missouri and it surely needs to be "shown," for it is something somewhat new. Many will recall the author's previous book, "The Fundamental Laws of Human Behavior," and the circumstance that it too was novel both in design and execution, showing, among other esoteric matters, that "the distinction of a general resistance and specific resistances in neurones permits a mathematical demonstration of the 'possibility' of the responding motor point being definitely changed by reversing the 'temporal order' of qualitatively differing stimuli." But this book is intended for elementary students (in some colleges and universities) who will never have any more psychology after it than they have had before it. As a step "downward" toward the coming adequate text for grammar-school use, let us welcome it warmly, however advanced certain of its discussions certainly are.

The "other one" in its title is only an attempt to stress (unduly, many would claim) that introspection is of no account to speak of in psychology. This work takes cognizance of nothing that may not be revealed by the senses of an external observer. In other words, it is a treatise in social physiology (see below), and its title is a misnomer as well as a novelty; it is frank "behaviorism."

No manner is at hand for better conveying hither the details of the book's matter than a quotation of its twenty chapter-titles; these are as follows: — "The Other-One becomes an object of interest to us; the Other-One manifests machine-like reactions; the Other-One's reactions are either concerted or local; concerted action presents a problem to the architect of the nervous system; the Other-One appears now attentive, now absent-minded, now inattentive; the Other-One varies his mode of reaction gradually or suddenly: he learns and wills; how the Other-One's developed nervous functions show up anatomically; the Other-One's most interesting reflexes and instinctive actions; space-perception on the skin: a species of condensation of the nervous functioning [plenty of introspection and of consciousness comes in here]; Nature enables the Other-One to perceive space at a distance [and consciousness comes in here too]; Nature divides the spectrum for the Other-One's space-perception at a distance [and here]; Nature makes a second division of the spectrum; the Other-One is equipped with a sense organ particularly suited to signals; the Other-One's talking machinery; rhythm: motions grouped and thus repeated; how the Other-One talks and writes to himself; if the Other-One is born blind, or deaf, — what then?; the Other-One walks in his sleep; disturbances of personality; abnormalities; the psychology of the Other-One and the sciences other than psychology; the mysteries of the soul." Then there are a dozen pages of questions and answers, and a brief index.

"The psychologist is not interested in your soul, but in certain functions of your organism, in those which are directly of social significance." Thus, in one of the temporary obsessions of the day, do certain psychologists belie the name of their science and frankly try to degrade it to a phase of a narrow physiology. The materialists are always with us, like the poor; and charity verily covereth a multitude of sins — even perhaps the carnal sin of denying that psychology has a birthright, a subject-matter, and a pre-eminent dignity of its own. And no one knows this better than "the Other-One," as he would be bound to admit. George V. N. Dearborn.

Brightness and Dullness in Children. By Herbert Woodrow, University of Minnesota. Lippincott & Co. Philadelphia. pp. 210-322.

The book really covers more than the title would indicate. In the fourteen chapters which the volume contains, the following subjects are treated: (a) the measurement of intelligence (b) brightness and dullness (c) brains (d) physical defects (e) anatomical age (f) pedagogical age (g) simple mental processes (h) association, memory and attention (i) complex mental processes (j) mental organization (k) heredity (l) the organization of association (m) educational methods. As a summary of the most important findings on the enumerated topics, Dr. Woodrow's book will commend itself not only to the general reader but to the psychologist as well.

The author has quoted freely, perhaps a little too freely, but it must be conceded that he has shown sound judgment in the selection of his authors and passages, and has brought the results up to date. Dr. Woodrow has done well to present the facts and the findings without introducing controversial matter. The chapters which present more of the author's views are those on dullness and brightness and on the organization of education and educational methods. The book is illustrated but lacks a preface, beginning rather abruptly though effectively with the letter Francis Galton wrote to his sister, the day before his fifth birthday. A. A. ROBACK.

THE SCIENCE OF OURSELVES. A Sequel to the "Descent of Man." By Sir Bampfylde Fuller, K. C. S. I., C. I. E. London. Henry Frowde, and Hodder & Stoughton, 1921. Pp. x, 326.

This book is still harder to review adequately than it is to read, for it is the work (or pleasure) of a man who evidently has had little real training either in psychology or in neural physiology. Sir Bampfylde Fuller has written "Studies of Indian Life and Sentiment," "The Empire of India," "Life and Human Nature," and "other works" and probably India is his field for literary and scientific achievement.

He describes three planes of nervous activity, the physical (instinctive), the spiritual (psychic) and the mental (reflective), but the present reviewer cannot see that he arrives anywhere (save at his own satisfaction?) in three hundred pages of print. The author's attitude is seen from two sentences of the Preface: "Human nature produces consequences that can be measured arithmetically: we can deal with the perceptible consequences of loyalty and disaffection, of industry and idleness. The object of this book is, however, to use reasoning inference as an instrument for detecting the causes from which such consequences spring," — uninfluenced by sentiment, of which "Reason takes no account"! Yet, he says, "Charity, at all events, should welcome an attempt to analyze human nature." For "tout comprendre est tout pardonner." GEORGE VAN NESS DEARBORN.

THE TREND OF THE RACE. A Study of Present Tendencies in the Biological Development of Civilized Mankind. By Samuel J. Holmes, Ph. D., Professor of Zoology, University of California. New York. Harcourt, Brace and Company, 1921. Pp. v, 396. Price, $4.00 net.

Sociology and neuropsychiatry will find this new book one of importance in their orientations of individuals and of relationships. To this fact the work's chapter-titles certify:

"An Introductory Orientation; The Hereditary Basis; The Inheritance of Mental Defects and Disease; The Heritable Basis of Crime and Delinquency; The Inheritance of Mental Ability; The Decline of the Birth Rate; The Causes of the Decline of the Birth Rate; Natural Selection in Man; The Selective Influence of War; The Selective Function of Religion;

Sexual Selection and Assortative Mating; Consanguineous Marriages and Miscegenation; The Possible Rôle of Alcohol and Disease in Causing Hereditary Defects; The Alleged Influence of Order of Birth and Age of Parents upon Offspring; The Racial Influence of Industrial Development; and Retrospect and Prospect."

There are also a valuable list of bibliographic references at the end of each chapter, and an ample index.

Besides being of professional use to sociologists and to physicians, this volume "makes available to the layman the latest results of scientific study in regard to the various forces which are at present modifying the inherited qualities of civilized man. Some of the most important problems confronting us as a result of the War receive a new illumination, in the author's fresh and vigorous handling of such subjects as the hereditary basis of civilization, the inheritance of mental defects and diseases, the inheritable basis of crime and delinquency, the declining birth-rate and its causes, and the selective influence of war."

The work has much that may properly give the humanity-proud religionist and philosopher food for deeper thought. For example: "Everywhere the nemesis of degeneracy hangs threateningly over the organic world. The attainment of any degree of complexity or perfection of organization is no guaranty against deterioration. There is not the slightest ground for believing that man himself is in any degree shielded from its insidious influence. In fact, it is not at all improbable that many existing peoples have descended from ancestors who were more favored with natural gifts, and we should bear in mind the possibility that our own civilization may become 'one with Nineveh and Tyre.' " And Francis Galton says, "Our human civilized stock is far more weakly through congenital imperfection than that of any other species of animals, whether wild or domestic." It seems as if the race should use its shame, as well as its superior intelligence, to correct such a state of things. At any rate, from such a viewpoint, obviously perfectly sound, eugenics has double importance.

Chapter three, dealing with the inheritance of mental abnormalities, has much up-to-date matter of importance to psychiatry. He claims the heredity of epilepsy, although not as a single Mendelian character. As regards insanity, Holmes inclines to the opinion that "the hereditary basis of insanity is something positive, a definite pathological factor or factors working havoc with the normal development of the organism, and which may be kept from exercising to the full its deteriorating defects by an admixture of healthy germplasm." In Mott's principle of "antedating" or "anticipation" in neuropathic inheritance our author takes little stock. From the presumption (from work by Fraser and Watson) that of the feebleminded 57 per cent show a positive Wasserman, he inclines to the probability that here (in syphilis) we are dealing with the transmission of an infection liable to very various degrees of severity — a general conclusion (of variability) which would explain *many* controversial points in neurosyphilology.

The decline in the birth-rate Professor Holmes ascribes chiefly to voluntary limitation, as probably is correct; suggests his belief (following Robinson) that two million abortions may be performed in this country yearly; and expresses his opinion that "Neo-Malthusianism," birth-control, is coming to be more and more favorably considered in medical circles and elsewhere. "The attempt to make ignorance the bulwark of morality has always broken down," and approves of sexual knowledge in this direction for all married couples.

Altogether this is a meaty book that few can afford to miss. His discussion of the injurious effects of alcohol for example on inheritance is as interesting as it is timely. GEORGE VAN NESS DEARBORN.

SELF-DEVELOPMENT. A Handbook for the Ambitious. By H. Addington Bruce, Author of "The Riddle of Personality," "Nerve Control and How to Gain it," etc. New York and London. Funk & Wagnalls Company, 1921. Pp. x, 332. Price, $1.50 net.

The well-known popularizer of applied psychology who writes this interesting book, states its main purpose in these terms: ". . . all men of normal psychic constitution contain within themselves success-winning powers or faculties or attributes, utilized by the great majority to nothing like their possible maximum of use. How to draw upon these powers, and at the same time how to direct them to ends compatible with a wholesome philosophy of life, it is my endeavor to make clear." The present reviewer considers that he has achieved this purpose in a volume that will be of really practical, as well as educational, value to very many persons.

The book is written in Bruce's familiar excellent language which appeals to all grades of students of English, being clear, straightforward, and unequivocal, as is the nature of good English. Besides a preface, which orients the reader in the author's endeavor, and a good index, there are thirty practical topical discussions or essays in psychotherapy in a very broad sense of the term, averaging eleven pages each. "Organize Your Life," "Believe in Yourself," "Nourish Your Soul," "Grow in Initiative," "Defense Reactions," "Get the Joy Habit," "Face the Unpleasant," "To Profit from Defeat," are eight samples of the topics considered. The book has numerous quotations from writers who know things, anecdotes of interesting personalities, and through it all runs an elevating yet practical *motif* that reminds one of the will to be glad, whether it comes from the silent pen of the lamented author of the triumphant "Pollyanna" or from the uplifting professional remarks of some more than usually wise and up-to-date psychiatrist or psychopathologist to his worried patients. In the flood of oh-be-joyful literature, it is perfectly natural to forget at times that its scientific basis is absolutely as sound and permanent as its benefits are real to the human race. It enjoys the highest sanctions.

But many topics outside of joyous "uplift" are adequately treated of in Bruce's latest book — such as "Aids to Real Thinking," "The Power to Perceive," "How to Talk Well," etc.

The volume is one of value, to be recommended to recovering and recovered psychoneurotics, as well as to normal people who would better understand their own personal superficies. GEORGE VAN NESS DEARBORN.

HEALTH EDUCATION AND THE NUTRITION CLASS. A Report of The Bureau of Educational Experiments. Descriptive and Educational Sections by Jean Lee Hunt. Studies of Height and Weight and Mental Measurements by Buford J. Johnson, Ph. D. Report on Physical Examinations, 1919–1920 by Edith M. Lincoln, M. D. New York. E. P. Dutton & Company, 1921. Pp. xvii, 281. Three half-tone illustrations and numerous graphs and statistical tables. Price, $3.50.

This is the complete report of "The Bureau of Educational Experiments" of research made in Public School 64, New York City, between February, 1918, and June, 1921, and financed (if one may judge so by the dedication of the volume) by Elizabeth Sprague Coolidge.

"What is the Nutrition Class? What can it do for us? Individually? — as a nation? Is it a passing fad, or a substantial addition to modern provisions for private and public welfare? Health Education and the Nutrition Class offers answers to these questions and to many others. It presents a detailed report of the series of nutrition classes organized by the Bureau of Educational Experiments in a city public school and supplies a well-rounded interpretation of the experience and the results afforded. Social, racial and individual factors are carefully considered. Two special chapters on growth and on measurements of mental ability in underweight children are features of particular interest and value. In a concluding chapter the educational problems of a health program are analyzed and clarified, and the possibilities and limitations of the nutrition class as a factor in national health-making clearly defined." So runs the advertisement on the jacket of the volume.

Of the 894 scholars of the first, fifth, sixth and seventh grades, the open air classes, and the supernormal class (most of them of Russian and Austrian Jewish birth), 17.7 per cent were found to be underweighted — and this means more than it would mean in the case of adults (whose weight-norms are all far too high beyond the third life-decade). Out of these 160 lean children 105 were enrolled in these nutrition-classes.

The "chief points in the thinking" of the Bureau members as the study ended were as follows: "The efficient program of health education must recognise the primary importance of nutritional status as a basis for estimating general physical condition among children. . . . Results of the health program should be evaluated currently through individual records of growth-increment and nutritional status. . . . The resources of the school for supplying the chief provisions essential to the success of an educational health-program are greatly superior to those at the command of any other agency. . . . The preventive program of health education must be basic, an integral part of the school's general thinking, administration, and equipment. . . . The school can greatly strengthen its educational practice by making the adjustments in its equipment and procedure demanded by the health program."

This seems to be a good beginning toward diet programs in the schools, intending the reform of the children's dietary in their homes. Let the important work go on! GEORGE VAN NESS DEARBORN.

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ORIGINAL ARTICLES

THE CONDITIONED REFLEX AND THE ELEMENTARY SOCIAL REACTION

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MANY explanations have been given of organic or unreflective sympathy, that fellow feeling which we experience when another member of our own species is in physical trouble or pain or some other such elementary situation. Typical accounts are those of Adam Smith and Professor McDougall. Adam Smith, that invaluable point of departure for the social sciences, gives a good example of the facts. "When we see a stroke aimed and just ready to fall upon the leg or arm of another person, we naturally shrink and draw back our own leg or our own arm." The explanation that he gives is that we "conceive what we ourselves should feel like in the same situation."[1] However, to a modern psychologist, this seems like an over intellectualization of the process. Whatever we do, we apparently do not thus think out the matter. The whole thing is much more automatic than this would imply. Accordingly, there has developed the type of theory which makes the process depend on some kind of instinct or special mechanism. Thus McDougall writes "We must not say, as many authors have done, that sympathy is due to an instinct, but rather that sympathy is founded on a special adaptation . . . that renders each instinct capable of being excited on the perception of the bodily expression of the same instinct in other persons."[2]

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[1] See his "Theory of Moral Sentiments," part 1, chapter 1. This is the theory of "Sich-Hineinversetzens." See B. Groethuysen, Das Mitgefühl, Zeitschr. für Psychol. 34, s161, 1904.

[2] Social Psychology, p. 93.

But in spite of the disclaimer, this seems nearly as difficult as the older instinct theory, for no explanation is given of the nature of the special mechanism. It seems as mysterious and of as definitely a deus-ex-machina character as was ever the instinct of sympathy. Without accepting McDougall's conception of instinct, to which, indeed, the writer finds himself fundamentally opposed, an attempt will here be made to explain the nature of the adaptation of which he speaks, on the assumption that no special mechanism is involved. It will be maintained that the simpler types of sympathy, which are known by some as "organic" sympathy, are produced in accordance with the mechanism of the conditioned reflex, and an attempt will be made to trace out the consequences of this theory in certain further developments.

Axiomatic for the view here presented is the proposition that another human being is originally like any other stimulus to the infant, presenting no peculiar features and no intrinsic differences from any other combination of stimuli. The process of the gradual development of the environment, or stimulus concept, as opposed to the sensation, is a commonplace.[3] After the marking off of the environment, now arises the distinction within the environment between things and persons. This has its origin in the physical similarity of one organism to another, and in the congruity of response in the two cases. The first factor has been clearly brought out in the literature, but the second will perhaps repay a brief account.

At an early age the cry of a baby and the cry of another baby seem to serve, either of them, as the stimulus for further crying. The sound of crying has, by the mechanism of the conditioned reflex, become a secondary stimulus for the reaction of crying. Similarly the sight of a moving hand may start the child moving his own hand, again by the conditioned reflex mechanism. At this stage, as far as the hearing or the sight of them goes, it seems to be relatively indifferent to the infant to whom the voice or the hand belongs, to itself or another. A similar state of things probably prevails with the other parts of the body. But there comes a time when the bodily reactions and the bodily parts of others are clearly set off from the infant's own bodily parts and reactions. The integration of the one goes to form the first elementary conception of the child's own personality. The integration of the other forms the conception of "a man like unto myself."

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[3] See e. g. Mead, J. H., Mechanism of Social Consciousness, Journal of Phil. Psych., etc., 1912, 9, 401–406.

What then is the difference between the "self" integration and the "other person" integration? As far as the outward and visible sign goes, the two would appear to be of entirely the same calibre. Objectively, that is, the two are similar. The difference is on the subjective side. My own limbs are connected up with my own sensations, of a specific, subjective kind that do not belong to the limbs of others. But it is to be insisted again that as judged by the "distance receptors" so called, my own body and that of my neighbour are on a par, not identical but similar. My hand looks like my neighbour's, makes the same noise when it splashes the water as my neighbour's, perhaps smells like my neighbour's. But like the parsley in Bre'r Rabbit, it isn't my neighbour's.

Now, through the mechanism of the conditioned reflex and otherwise, I guide my actions by means of past experience. Originally the human being is equipped with certain reactions which are touched off at certain biologically adequate stimuli. Other stimuli reach the organism simultaneously with these originally adequate stimuli, and are given meaning, becoming secondary stimuli by Pavlov's well-known law.[4] Chaos is reduced. Thus Pavlov's dogs, which learned to anticipate food when a green light was shown them, were using the mechanism to guide their present actions by past experience.

Now of this kind of learning, the greater part takes place by means of the distance receptors. The majority of secondary stimuli are of an auditory or visual nature, and it is within the bounds of possibility that the chief function of these organs is exactly this blossoming out of their data into conditioned stimuli. Certain it is that there are at birth very few discriminated reactions functioning through them. In addition to motor reactions, the pleasantness-unpleasantness feeling and the emotions also become conditioned, that is, are given stimuli secondary to those originally operative, and again, most of this kind of learning takes place through the medium of the distance receptor.[5]

Drawing together, then, the argument up to this point, it would be expected that, at the stimulus which has produced pleasantness or unpleasantness in my own past experience, pleasantness or unpleasantness will follow again, even though the stimulus in question originally came from my own body and now comes from the body of some one else. Pain one would not expect so to occur, pain being of course a sensation. Now this is exactly what happens. If I hold my hand in a candle, I experience the sensation of pain together with the feeling of unpleasantness. If some one else holds his hand in the flame, I do not experience the sensation of pain but I do have the feeling of unpleasantness, because the sight of my hand in fire has in the past been accompanied by feelings of unpleasantness. Similarly, the smell of burning flesh is highly distressing to most of us, and even the other accompaniments of intense nervous shock, such as nausea, often arise vicariously by this mechanism of conditioned stimulation. Here the primary stimulus is the burning of my hand, the secondary stimulus the sight and smell of burning flesh. Sometimes, though this is abnormal, even the actual sensation of pain is produced in such cases, as in an example given by Professor Burnham, where a mother seeing an injury to her boy actually felt a sharp pain in the same place.[6]

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[4] Simultaneously with the acquisition of conditioned stimuli goes of course the neural and muscular development of the organism.

[5] Thus, e. g., Watson's well known experiments on the conditioned emotional reaction, and what is known as the "experience" theory of feeling, which latter is really a conditioned reflex theory of feeling.

Exactly the same thing happens for more complex situations. If I see a man at the end of a precipice, my reaction is to the physical proximity of a body to the precipice. I judge the situation according to the habits which I have acquired for my own protection. It makes no difference that I have not actually seen myself at the edge of a precipice. All that is necessary is that the integration, or, to borrow the Freudian term, the "complex" of "Body-near-a-precipice" should be touched off. This mechanism shows, of course, wide variations corresponding to individual differences. Some of us do not flinch when others are cut. Most of us rather enjoy the thrill of the tightrope walker. That is because the reactions bring a mobilizing of the resources of the body that is pleasant despite the feeling of unpleasantness that probably alternates. Hence the curiously mixed feelings with which we are apt to watch such spectacles.

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[6] The account above given of the more elementary or so called "organic" sympathy will seem at first to resemble Spencer's association theory, whereby one member of a herd of animals which have experienced, say, the emotion of fear, at a given stimulus *associates* the emotion with the expression of the emotion by fellow members of the herd. It may here be said, that even though the comparison were justified, yet the present theory would seem to be an advance over Spencer's formulation in that it gives an account of the mechanism of association. But the resemblance is more apparent than real. It is not so much the association of the emotion with the response, but rather the unreflective reaction of the organism to the situation, out of the organism's own previous experience, that is stressed in the conditioned reflex theory. Spencer's formulation, though, applies to many cases, giving a more elementary type of sympathy. The explanation of both types is the Conditioned Reflex. My attitude is different from that of the "Sich-Hineinversetzens" theory, though this also presents a parallel. See note on Adam Smith's theory (next page). Ebbinghaus, Grundzüge der Psychologie, Bd. II, s. 395 fol. has a good account of the classical positions. Here also should perhaps be mentioned the theory of Einfühlung. In the contention that our knowledge of other individuals comes from our own previous experience, the Einfühlung theory is in strict accord with that here presented. See, e. g., Lipps, Leitfaden der Psychologie, XIV, Cap.

When the plight of the observed organism becomes so serious that nature's first line of defence, the pleasantness-unpleasantness feeling, is no longer adequate, then the second line of defence is brought into play and the emotions called in. Thus if I myself walk too near the edge of a cliff, the situation becomes unpleasant and I move away. If, on the other hand, as I move away the ground begins to crumble beneath me, emotion will probably enter into my reaction and I become afraid, this emotion serving the definitely physiological purpose of mobilizing all my bodily resources, putting the body, so to speak, under martial law. This special reaction is the result of past experience. The general fear reaction is of course there from infancy, but we have to learn, by the mechanism of the conditioned reflex, which situations are dangerous, which is the same thing as to condition our general reactions by experience. Hence, when the complex or integration of "soil slipping beneath" is stimulated, emotion follows whether I am the agent or the onlooker.[7] Kinæsthetic and other sensations, present in the one and not in the other case, probably account for what difference there is in the two cases. Hence the general thesis, that in such cases I react to the situations of others from my own experience, and by means of the mechanism of the conditioned reflex, and show joy, fear, sorrow, etc., automatically according to the reactions which in the past have been associated with that particular situation in myself.

In still more complex actions and systems of conditioned reflexes I also judge a man by my own experience. A deeply embedded habit becomes sacred to me, and I experience a feeling of unpleasantness when it is broken (Stout and Dewey). The unpleasantness is the natural compass, keeping us within the bounds of the action which has been found in the past to be satisfactory, and registering deviation from the path, and is roughly proportionate to the strength and depth of the habit and the amount of deviation. Now if some one else in the same situation *breaks my habit*, a parallel feeling of unpleasantness is caused, again by the mechanism of the conditioned reflex. This is the germ of a certain kind of social ban. Thus in England, to one who has always dressed for dinner and whose family has always dressed for dinner, sitting down for the evening meal en famille in morning clothes will seem an outrage, whether it be the person concerned or some one else that is the culprit. It is the very strength of the impulse leading to the deep seated habit and the fact that this habit has become so fundamental in the individual that makes the breach so painful. Similarly, if it has been my lifelong habit always to rise at six A.M., then to contemplate lying in bed till ten is unpleasant, whether I do it or some one else. Habits are chains of conditioned reflexes. The pleasantness-unpleasantness reaction seems to have for its purpose, in part at least, to call attention to any deviation from the habit. If then I observe another person in a situation that would normally be taken care of by one of my own habits, I am apt to be uncomfortable unless the situation serves as the stimulus for some stronger reaction such as those feelings connected with self gratification. In the early nineteenth century all foreigners were apt to be "nasty foreigners" in England, because they lived differently.

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[7] Compare Adam Smith, O. C., Seventh Edition, p. 10. "Sympathy, therefore, does not arise so much from the view of the passion as from that of the situation which excites it." Adam Smith had the knack of being right, though his reasons, to a later generation, often seem questionable. Here he goes on ". . . because, when we put ourselves in his case, that passion arises in our breast from the imagination, though it does not in his from the reality." The truth would seem to be that a certain situation had become conditioned to a certain response in the one case and not in the other.

If further there is a person whose whole form of life, complex of habits, and personality, are alien to my own, I find that person irritating. Such a person is continually violating by proxy the habits which I have formed. This is the foundation of much married misery. Just why the untidy person should irritate the tidy one is difficult to answer on any other hypothesis. It cannot be put down altogether to the fact that the tidy person has to do the work ultimately, nor to encroachment on the personality of the tidy individual. These may sometimes play a part, but at least of equal importance seems the fact that actual feelings of unpleasantness are aroused by the acts in themselves, apart from their consequences. Thus the utilitarian school of morals would seem to be psychologically disproved in their assertion that our only criterion of actions can come from their results. At least in other people, it would seem that actions may be pleasant or unpleasant in themselves, apart from their effects. If again some one else's habits or individual actions go still more fundamentally against my most deeply ingrained habits, then the emotions may be called into action, and finally the situation becomes intolerable, as in many cases of "mutual incompatibility." This was clearly seen by Plato in his illustration of the perfectly good man, who would, he said, be scourged and ultimately crucified. It was not that the people dislike goodness, for in small doses most of us rather admire it. Rather the spectacle of a man who systematically outrages all our most cherished habits of selfishness and other little meannesses is more than most of us can stand. We require a person that is "made human" by his faults. The Jews crucified Christ, and it is true, as the mediævalists have it, that in crucifying Christ we crucify ourselves.

The same explanation may be given of the intolerant attitude of a good many men of the mediocre type towards the artist. Such a mediocre person must above all be methodical and must conform. If the man of this class trusted to his intuition and threw aside convention he would go bankrupt spiritually and morally, and probably also materially. Nature working through the conditioned reflex has arranged it that when he throws over the conventions things are unpleasant for him. Hence the sight of broken conventions, of another reacting to a certain situation in a manner which breaks all his carefully elaborated and successful rules, is exceedingly distasteful to him. The artist is apt to flatter himself that this dislike is due to fear. This, though it may be so ultimately, is not the case at the beginning of the relations between the two, as is shown very neatly in Bernard Shaw's Candida. Here is depicted a good humoured tolerance on the part of a bluff, energetic, commonsense man for a somewhat neurotically inclined artist. The tolerance is easily seen to be the repression of a fundamental dislike, and is totally removed from indifference. Only later in the play does it develop into fear.

Thus in the simpler forms, at least, of social reaction the application of the theory of the conditioned reflex seems to provide an explanation. This is in line with two tendencies of today, namely, that which protests against the over intellectualization of psychology and that which seeks to do away with instincts and special mechanisms. Science attempts to reduce to general laws and as far as possible to eliminate the plea of "sui generis." The attempt to explain the simple social reaction by a wider principle is a step in this direction.

A STUDY OF THE INDUSTRIAL RECORD OF CHILDREN ASSIGNED TO PUBLIC SCHOOL CLASSES FOR MENTAL DEFECTIVES, AND LEGISLATION IN THE INTEREST OF DEFECTIVES

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IN the article published in the April–June number of THE JOURNAL OF ABNORMAL PSYCHOLOGY AND SOCIAL PSYCHOLOGY[1] we discussed the facts, obtained in a census, regarding the sex, relationship, heredity, marriage, delinquency and truancy of the children who had been assigned to the special schools for mental defectives in the city of St. Louis during a period of twelve and a half years. The present article will consider the industrial data, and the legislation enacted in Missouri for the welfare of defective children.

INDUSTRIAL RECORD

Table 2[2] contains the occupational records, so far as known to the teachers, of nearly all of the cases. Unfortunately the teachers did not possess any exact data bearing on the wages received at the time of the report, except in a few cases, or on the length of employment, frequency of discharges, or the extent of the turnover. The problem of the industrial success of defective children who have been trained in special classes deserves the fullest investigation by the public agencies concerned with their training and care. As has already been emphasized, in order to obtain accurate employment records the services of special investigators who can trace the continuous industrial records of each employee must be available. Nevertheless the data summarized in the table is interesting in showing the great variety of jobs held in commercial establishments and factories by the pupils leaving the special schools. Almost every type of employment is represented, but only a negligible number had entered skilled trades, only two being painters and one a carpenter. Undoubtedly some were employed in skilled work in the factories. A considerable number are employed in the shoe and box factories, and a considerable number are drivers, four being chauffeurs. Only one of the girls was employed in a restaurant — a fortunate circumstance, for waitresses frequently gravitate toward immoral careers. Not a single girl was employed in domestic service away from home. Only 23 were reported as doing nothing. However, it must be recalled that nothing was known concerning the careers of 436 of the children.

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[1] An Investigation of the Sex, Relationship, Marriage, Delinquency and Truancy of Children Assigned to Special Public School Classes. The numbering of the tables in the two articles is continuous.

[2] This Journal, 1922, XVII, 27.

The records, both industrial and criminal, so far as they go, are quite satisfactory, and point to the value of the special school training.

But it is evident that the special schools have given little specific training for most of the occupations which the children have entered. Nearly all of the hand training in the special schools is generic, prevocational, or industrial in character. The manual training offered in the special schools for mental defectives has frequently been criticized because it is too generic. The question how far the special schools should go in the direction of giving specific training for the occupations in which the feeble-minded enter in a given community, deserves careful consideration. The data presented here fail to reveal any "typical" occupations which the feeble-minded enter in St. Louis. The employment records of these children furnish little clue as to the type of vocational training which should be supplied in the special schools. It would scarcely be feasible to offer training in any considerable number of occupations listed in Table 2, nor in the numerous simple operations which enter into the processes of factory production. Indeed very little trained skill or intelligence is required to carry on the simple, highly specialized, routine, monotonous operations which today enter so largely into practically all forms of factory employment.

TEACHERS' ESTIMATES ON THE PROBABLE INDUSTRIAL EFFICIENCY OF THE PUPILS NOW IN THE SPECIAL SCHOOLS, TOGETHER WITH THE PSYCHOLOGICAL FINDINGS

The following investigation, which preceded the one just described, was also made possible through the willing co-operation of the special school teachers. The teachers were asked in a questionnaire to "estimate the degree of competency which, in your judgment, the pupils will probably show in making their living and taking care of themselves after leaving school. Classify the pupils under the following headings: Self-supporting (100 per cent), 75 per cent supporting, 50 per cent supporting, 25 per cent supporting, and totally dependent (of no economic value). Group the boys and girls separately. Give the reason for your opinion (e. g., lack or presence of intelligence, lack or presence of industry, emotional or moral stability or instability, physical handicap, etc.)." The reports covered 374 children who were enrolled at the time of the investigation, October, 1920. It will be understood that the industrial or economic classification, Table 3, merely represents the judgment of the teachers.

TABLE 3

DISTRIBUTION OF PUPILS ACCORDING TO GRADE OF INDUSTRIAL ABILITY, AS ESTIMATED BY THE CLASSROOM TEACHERS

GRADE OF EFFICIENCY	BOYS No.	BOYS PER CENT	GIRLS No.	GIRLS PER CENT	BOTH No.	BOTH PER CENT
100%	17	7.0	9	6.7	26	6.9
75%	44	18.3	22	16.5	66	17.6
50%	66	27.4	38	28.5	104	27.8
25%	71	29.4	31	23.3	102	27.2
Totally Dependent	43	17.8	33	24.8	76	20.3
Total	241	...	133	...	374	...

According to this estimate only about 7 per cent of the pupils will become wholly self-supporting, while about 20 per cent will be totally dependent. More than half were judged to possess from 50 per cent to 100 per cent of the capacity of a self-supporting adult.

In Tables 4, 5 and 6 are given the number of children in each intelligence classification, the average intelligence quotient, and the range of the intelligence quotients in each economic group. While there is a general tendency for the average quotients to decline (Table 5), the surprising thing is the wide range of intelligence quotients (Table 6) and the wide range of intelligence categories found in each economic group (Table 4). The pupils range in intelligence from merely backward to imbecile in every economic group. Not only are pupils who rate higher than feeble-minded found in every economic group but the pupils in the lowest intelligence group (imbeciles) are also found in every economic group. Pupils with an I. Q. as low as 36 (1911 scale) are reported capable of self-support, while others with an I. Q. of 84 are recorded as totally dependent. What is the explanation of these striking discrepancies between the teachers' judgments and the test results?

First, the teachers may have erred in their estimates. This is undoubtedly the explanation of some discrepancies, but there is no reliable means available for determining the extent of the teachers' subjective errors.

Second, the reasons given by the teachers for their judgments undoubtedly explain many of the discrepancies between the estimated economic success of the pupils and their intelligence level. Only the briefest analysis of the assigned reasons can here be given.

TABLE 4

The Intelligence Distribution, Based on the Intelligence Classification, of the Pupils in Each Economic Group

Diagnosis	Self-Supporting	75% Efficient	50% Efficient	25% Efficient	Totally Dependent
Backward	2[1]	0	2	3	0
Borderline	2	9	19	4	4
Potential Feeble-Minded	7	11	20	17	3
Borderline and Potential Feeble-Minded	9	20	39	21	7
Morons	7	17	9	19	6
Potential Morons	4	10	21	26	11
Imbeciles	1	4	11	24	63
Feeble-Minded	12	31	41	69	80
Deferred	1	7	8	4	3
Total	24	58	90	97	90

TABLE 5

The Average Intelligence Quotient of the Pupils in Each Economic Group

	Boys			Girls			Both		
Economic Group	1911 Scale	Stanf. Scale	'11 and Stanf.	1911 Scale	Stanf. Scale	'11 and Stanf.	1911 Scale	Stanf. Scale	'11 and Stanf.
Self-Supporting	71.0	65.1	64.6	74.5	63.8	66.5	72.5	64.7	66.0
75% Efficient	67.3	66.1	66.3	67.5	60.8	62.9	67.4	64.6	65.2
50% Efficient	63.4	65.8	65.2	71.4	63.3	65.2	66.4	64.9	65.2
25% Efficient	69.5	60.3	61.5	63.3	59.5	60.3	67.0	60.1	61.2
Totally Dependent	52.0	52.3	52.1	50.5	53.5	51.6	51.4	52.9	51.9

TABLE 6

Range of Intelligence Quotients in Each Economic Group

	In the Stanford Scale			In the 1911 Scale		
	Lowest I. Q.		Highest I. Q.	Lowest I. Q.		Highest I. Q.
Self-Supporting	55	to	80	67	to	76
75% Efficient	47	to	75	36	to	84
50% Efficient	44	to	79	31	to	88
25% Efficient	36	to	85	26	to	78
Totally Dependent	26	to	84	30	to	79

The reasons for judging certain pupils capable of self-support were mainly good judgment and skill, industry and skill, good intelligence, energy, and perseverance.

Some of those rated as three-quarters proficient possessed, on the positive side, intelligence, industry, energy, alertness, or ability in manumental work. On the negative side, the pupils were reported as slow, nervous, shrewd or intelligent but morally or emotionally unstable, or merely morally or emotionally unstable, or lacking in intelligence, defective in disposition, defective in hearing, physically defective, lacking in concentration, or lacking in control.

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[1] The figures represent the number of pupils in each group. Some pupils were admitted to the schools without examination before the clinic was established, and therefore are not classified.

Those rated as half supporting were recorded, on the positive side, as intelligent, and, on the negative side, as vacillating, erratic, unstable, morally and emotionally unstable, slow, childish, immature, lacking in intelligence, or industry, or confidence, or interest, or persistence, or they were intelligent but poor in manumental work, industrious but physically handicapped, or merely physically handicapped.

A few of the one-quarter efficient pupils were reported as industrious but slow, or lacking in intelligence, while one was reported as showing industrial skill. The others were inert, lazy, lacking in endurance, application, or intelligence; or were emotionally or morally unstable, or physically handicapped, or paralyzed, while one was an epileptic.

The totally dependent were lacking in intelligence or industry, were infantile, hydrocephalic, visually handicapped, paralyzed, morally and emotionally unstable, mentally unbalanced, or were in delicate health, or subject to poor nervous and motor control.

It is evident that factors such as the above vitally affect the ability of the growing child to adapt himself to his environment and must be considered in any attempt to supply scientific vocational guidance in connection with public school or other placement bureaus. In many cases such factors as the above are just as vital as the level of intelligence. An analysis of the army intelligence records has shown that the economic success of physicians does not vary directly with intelligence.[2] This result is confirmed by a close analysis of our data. Quite a number of children with a high intelligence quotient who were not reported as physically, emotionally or temperamentally defective were placed very low in the economic scale by the teachers. While the teachers probably underestimated the potential ability of many of these high grade pupils, and overestimated the ability of many low grades, it is, nevertheless, a fact that we cannot adequately diagnose a child's educational or social capacity or prognose his industrial capability by intelligence tests alone, although the intelligence level is probably the most important single determinant of scholastic or industrial success. The danger to be avoided in the educational and industrial classification of children and adults is the tendency to lean too exclusively on intelligence tests and scores, and to minimize the importance of comprehensive analyses.

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[2] Cobb, M. V. and Yerkes, R. M. Intellectual and Educational Status of the Medical Profession as Represented in the United States Army. Bulletin of the National Research Council, 1921, I, Pt. 8, No. 8.

THE CONTRIBUTION OF THE PSYCHO-EDUCATIONAL CLINIC TO THE ENACTMENT OF LEGISLATION IN THE INTEREST OF DEFECTIVE CHILDREN

In January, 1916, the director of the psycho-educational clinic and special schools was requested by Judge Rhodes E. Cave, a former president of the board of education of St. Louis, and Governor Elliott W. Major, to serve as chairman of the committee on defective children for the Missouri Children's Code Commission, and was reappointed by Governor Frederick D. Gardner in 1917 and 1919. Since 1915 the writer has proposed and drawn the bills dealing with defective children which have been enacted into law by the state legislature during this period. These bills have not only been supported by the Children's Code Commission, but by practically all of the influential organizations in the state vitally interested in child welfare and in social betterment. Among the laws which have been enacted are the following: the imposition of a penalty on county clerks for failure to report deaf and blind children to the state institutions for the deaf and blind; the admission of blind children under six years of age and deaf children under eight years of age to the proper state institutions; extending the compulsory attendance law to feeble-minded, blind, deaf and crippled children; authorization of the establishment of special public school classes or providing special instruction for blind, deaf, feeble-minded, crippled and speech defective children, and the granting of special state aid in order to promote the establishment of ungraded classes for children of borderline and backward degrees of intelligence, to which further reference will be made presently; authorizing the enlargement of the state colony for the feeble-minded, the establishment of additional colonies and temporary or permanent camps, as soon as the money becomes available, admitting colored inmates, and classifying and segregating the colored inmates, the epileptics, delinquents, prostitutes, children, and other classes of inmates, who, for their own welfare or for the welfare of other inmates should be segregated; the requirement that a prophylactic solution approved by the board of health be dropped into the eyes of a new-born infant immediately after delivery; and prohibiting the marriage of the imbecile, feeble-minded, insane and epileptic, and providing a fine of not less than $500 or imprisonment in a county jail not exceeding one year, or both, for solemnizing such a marriage. A mandatory commitment act for the dependent, delinquent and unprotected feeble-minded was passed by the 1919 legislature, but vetoed by the Governor because of his desire to sign another bill, which repealed the same section of the old law and which provided for partial county support of the inmates in the state colony for the feeble-minded.

The legislative influence of the clinic has reached far beyond the confines of the state. Many of the laws relating to defective children placed on the statute books in other states in the Union and in foreign countries have been patterned after the Missouri bills.

THE PROVISIONS OF THE PUBLIC SCHOOL SPECIAL CLASS ACT

Under the law enacted by the Missouri legislature in 1919, and the amendments enacted in 1921, school districts are authorized to establish special classes for blind, deaf, feeble-minded, and crippled children when there are ten or more of each type in a given school district; and to provide speech corrective training, but not necessarily in special classes, for speech defectives when there are 50 or more in any school district. When the number is less than as above indicated, two or more adjoining school districts may contract with each other for the joint maintenance of a class, provided the pupils cannot be accommodated in the appropriate state institution. Boards of education are required to "ascertain annually the number of children in a district who belong to any of the above types"; to furnish transportation to and from school for such of these children "as could not otherwise attend," and to provide instruction adapted to the "varying physical and mental capacities and handicaps of the children" "under the regulations of the state department of education." School districts will "receive state aid to the amount of $750.00 per annum for each teacher employed wholly in the instruction of the pupils of the aforesaid classes," provided this amount does not exceed two-thirds of the salary paid by the local board, provided the teacher has been especially trained for the particular type of child she has been employed to teach, and provided the classes have been approved by the state superintendent of schools, who is required to inspect and approve the classes and certify the teachers for the state bonus. The above provisions also apply to classes which school boards may establish for "twenty or more children, who, while not feeble-minded, are on the borderline of mental deficiency, or are so backward in intelligence as to be incapable of receiving proper benefit from the instruction in the regular grades," except that the state aid is only $300 per annum for each teacher.

The provisions of the compulsory attendance law are specifically made applicable to feeble-minded, deaf, blind and crippled children where special classes are provided, unless instruction is provided at home which is "equivalent at least to the instruction given the children of like development in such special classes."

It is the "duty of all boards of education and all superintendents of schools and of the state superintendent of schools to enforce the provisions of the law."

The law further authorizes the State Board of Charities and Corrections to "take charge of and provide for the proper training of feeble-minded, deaf, blind, and crippled children under the age of sixteen years who have not attained the eighth grade in school," and who have not been supplied with appropriate instruction in special public school classes or at home. The expense for transportation, education and maintenance shall be assumed by the State Board of Charities and Corrections and charged to the county in which the child resides when the parents cannot bear the expense. County superintendents of public welfare, county superintendents of schools and the superintendent of schools in the City of St. Louis are required "to report to the State Board of Charities and Corrections all children within their counties and the City of St. Louis who come within the provisions of this section." Attorney-General Jesse W. Barrett made the following ruling with respect to this section on April 18, 1921:

"It is hard to believe that any person fit for the position of County Superintendent of Schools would wilfully refuse to perform this service for an unfortunate class who are so particularly deserving of his attention. If failures have occurred in the performance of this duty, surely they must be due to a lack of understanding on the part of the County Superintendents. If any County Superintendent still neglects or refuses to make the report after the matter has been called to his attention, I suggest that you look at the provisions of Section 11158 which makes such a failure or refusal a crime punishable by conviction and fine. That section will give us ample power to take care of any County Superintendent or other officer who shall wilfully neglect or refuse to perform any duty or duties pertaining to his office under that chapter of the law.

"In addition, there are, of course, the ordinary remedies in the way of removal from office on account of neglect of duty.

"I think you should see that this law is rigidly enforced."

According to the regulations prepared by the writer for the state department of education,[3] the classes will not be approved unless the pupils have been assigned as the result of a proper physical or psycho-educational examination, or both, unless effort is made to secure proper remedial treatment, unless proper records are kept of all examinations, findings, assignments and transfers, unless the classes are properly organized with respect to methods and contents of instruction, supplies and equipment, and unless the teachers have secured in addition to the standard normal school course not less than eight semester hours' credit in courses especially designed to prepare them for the particular type of work which they are to do.

Pupils cannot be assigned to the special schools for mental defectives unless they "have been properly individually examined by means of standardized tests of intelligence." "Children with less than a three-year mentality or less than an intelligence quotient of 30 per cent, and with more than a nine-year mentality or over 70 per cent of intelligence, and children who have the capacity to do satisfactory all-round third grade work, should not be admitted to these classes." An investigation must also be made before admission of "the child's physical condition, his personal, family and school history, and the influences of his physical and social environment."

Children to be admitted to ungraded classes for the borderline and backward must "first be properly examined by means of standardized tests of intelligence and may range in capacity from 65 per cent to 90 per cent of normal intelligence. Some children with 65 per cent of intelligence or more may prove clearly to be feeble-minded, and therefore should not be assigned to the ungraded classes, but to the special classes for the feeble-minded. But children of doubtful mental status, who occupy a 'borderline zone' ranging from an intelligence quotient of from 65 per cent to 80 per cent, should be assigned to ungraded classes for special aid and careful observation. For this type the classes will serve the function of 'observation classes' or 'observation wards.' "

In order to carry out the provisions of the law — and to neglect to do so would constitute a violation both of the letter and of the spirit of the law, and the sentiments of all the progressive social and educational forces of the commonwealth — so far as relates to feeble-minded, borderline and intellectually backward children, the following steps must be taken:

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[3] See Suggested Rules for Special Classes, Educational Administration and Supervision, 1921, 447-458.

1. A plan must be devised for an effective, periodic system of preliminary reports and the proper intelligence examination of at least 4 per cent or 5 per cent of the pupils in the grades who are the most deficient in intelligence. The state law is specific in the requirement that boards of education must determine annually the number of defective and subnormal children in all the schools of a given school district. The voluntary system of reporting suspected mental defectives has proved a failure whenever tried. Under that system one-third of the elementary schools in St. Louis formerly failed to report a single child for the special schools, while 222 elementary schools in New York last year, with an enrollment of 321,000 pupils, did not recommend a single child for the classes for the feeble-minded. At least two preliminary reports a year should be sent to the psycho-educational clinic from each elementary school, the boys' classes, open air schools, and the school at Bellefontaine Farms. It is very probable that several certifiable ungraded classes could be established in all of these schools were the pupils properly examined. The financial aid which would thus be received from the state for the conduct of these classes would not be inconsiderable. In fact, examinations ought to be made of all the boys at the Farms, all the boys considered for the boys' classes, and all the juvenile court cases for which the board now provides facilities for physical examinations. The data submitted on the preliminary blanks may be limited to very few items: the child's name, exact date of birth and age, the total time spent in school in years and months, the grade in which the child is registered, and the grade in which he can do successful work in reading and arithmetic. Upon the receipt of these lists of mentally retarded pupils, an examiner should be sent to the school to test the pupils by means of a group test of intelligence. The pupils who are found to be the most retarded according to the teacher's rating and the group intelligence score, should also be given an individual mental examination. This examination may be given in the school if a light, quiet room is available, so that the examination may be conducted without interruption or interference. As the result of this preliminary investigation, some pupils will be assigned to the ungraded classes, while others will be selected for the more complete investigation required by the state

regulations for the candidates for the special classes for the feebleminded. In other words, pupils who rate below a certain I. Q. will be given a further examination in the psycho-educational clinic, after the receipt of the more complete data on the usual forms. Special problem pupils should also be given the more complete examination at the request of school officials.

2. In order to carry out the above plan, the psycho-educational clinic should be provided with several assistants. It is recommended that these positions be filled by transferring teachers in ungraded classes and special schools who have taken the courses on the education and examination of subnormal children and in mental tests offered by the director of the clinic in the Harris Teachers College. This would render it possible to meet the exigent needs at an insignificant cost.

3. Due consideration must be given to the requirement of the law that feeble-minded children who have been examined and certified be placed in special classes. Greater effort should be made to effect the transfers not merely to satisfy the demands of the law, but because the transfer is clearly in the interest of the child himself and the great mass of normal pupils who are greatly handicapped by the presence of defective pupils in the regular grades. Moreover, the principals and teachers rightly insist, after having gone to the trouble of filling in the necessary blanks, that they be relieved of the burden of trying to adjust the regular instruction to pupils who are altogether incapable of doing the work in the grades.

That it is possible to secure the transfer of the vast majority of the pupils assigned to the special schools has been demonstrated. During the period from 1914 to 1916, when the clinic had complete charge of the transfers only about 13.5 per cent of the children assigned failed to enter the special schools. During this period the transfers were enforced unless there were valid reasons to the contrary. During the last five years transfers have not been required when the parents have objected. The result is that the percentage of children who have not been transferred increased to 25.2 per cent in 1917–18, to 37.5 per cent in 1919–20, and 38.7 per cent in 1920–21. It is noteworthy that the worst record has been during the last two years, when the provisions of the state law require the transfer of pupils who have been properly certified and assigned.

An analysis of the individual cases has shown that there is no valid reason for the non-transfer of the vast majority of these pupils. There are, it is true, quite a number of children who have not been transferred during the last two years, because they have been unable to get to the schools. But this is no longer a valid excuse, as the law now requires that proper transportation be provided for feeble-minded, blind, deaf and crippled children who cannot otherwise get to the special schools.

SUPPLEMENTAL NOTES ON THE STAMMERING PROBLEM

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IN *Some Notes on the Stammering Problem* in the JOURNAL for June–September, 1921, Dr. Ralph Reed says: —

"The most striking thing that to me was elucidated, was the fact that a series of stammerers will eventually contradict almost every theory that has ever been set forth with regard to the nature of the disease. I believe that there have been more absurd and illy digested theories of stammering set forth than with respect to almost any other psychoneurotic disorder. I studied Bluemel's *Stammering and Cognate Defects of Speech*, very carefully years ago, and I found nothing in it of any value to me whatever. I can say the same of practically every theory of this disease that has been since advanced, including the work of both Swift and Scripture."

This statement, valid in the main, is worth serious consideration. Why further mislead the public with absurd and illy digested theories of stammering? Why further discredit the already seriously discredited integrity of the press? Why further contribute to the suffering caused by the leading speech disorder? We can not stop the publication of mistaken views; but if every one conversant with the subject would endorse the valid portions and revise the invalid portions we would be on the way to real accomplishment. Let us do this with Dr. Reed's article, in which he has compressed a remarkably large amount to be endorsed. Indeed, from his observations we may derive the theory which he seeks.

It would be desirable to quote verbatim; but that procedure would make this article objectionably long, so we will condense, endeavoring as much as is possible to retain Dr. Reed's exact meaning. Here follow the views endorsed: —

(1) The stammerer has a sense of inferiority.
(2) He has a tendency toward spontaneous recovery.
(3) His difficulty is not restricted to vowels or to consonants or to particular letters of either class.
(4) Stammering varies in intensity from day to day or from hour to hour.
(5) Inconsequential remarks or subordinate clauses are often fluent.

(6) Stammering is not always diminished in the presence of friends or at home or vice versa.
(7) It varies in most unusual and extraordinary ways.
(8) Distraction produces temporary fluency.
(9) Stammering schools use distractions such as rhythm or change of voice tone.
(10) These distractions one and all are to be condemned "absolutely and completely."
(11) The stammerer's attention should not be attracted to his speech in any way.
(12) He can (at times) speak as well as any one.
(13) The disorder is not essentially a speech defect.
(14) The stammerer may speak fluently by waiting for recovery of his confidence.
(15) The disorder is not alone a mere habit fear.
(16) The mechanism of the disorder "is nothing more than an undue amount of energy overflowing into the muscles of speech."
(17) "If some of this energy can be diverted he" (the stammerer) "can speak with freedom."
(18) "The more important the thought he desires to utter, naturally the more certain the speech defect manifests itself since he, because of anxiety, directs more energy toward the physical mechanism of speech."
(19) Normal speech is automatic.
(20) "This is the stammerer's barrier. He can never forget, consciously or unconsciously, what he considers the necessity for speech effort. A million associations with speech failure have determined this."
(21) Quick cure is not to be expected.
(22) "All attention directed toward the speech mechanism itself is definitely contra-indicated."

For brevity in the derivation of our theory from these observations, let us follow the method of Kepler, which was to surmise the theory and reject it if it failed to embrace the observations. In this case rejection is unnecessary, for the speech-interference theory, which Dr. Reed overlooked, is thoroughly developed.

This theory is:—

(A) A temporary interruption to normal speech.

(B) induces a conscious speech effort, which for want of proper direction,
(C) blocks the automatic speech, creating a fear of further speech difficulty which
(D) prompts further effort to overcome the imaginary difficulty, and
(E) intensifies the speech doubt.

A review of the list of Dr. Reed's observations shows this theory to embrace every one of them, which is the test of a theory. ("When we say that we understand a group of natural phenomena, we mean that we have found a constructive theory which embraces them." Albert Einstein. Science Jan. 2, 1920, p. 8.) The interested reader may make his own review, for lack of space precludes the making of one for him here. We may in passing call attention to the automatic nature of speech (19); the stammerer's interference with his speech (16), (18), (20); fluency following distraction from the speech doubt (8); variation in intensity, not according to sounds and places, or character of the auditor, but according to the stammerer's own attitude toward his speech with respect to those circumstances, (3), (4), (6), making that variation appear most unusual and extraordinary, (7); and finally the tendency to spontaneous recovery, (2), due to the fact that circumstances which afford much distraction or do not require what the stammerer calls "difficult" talking, obviate the stammering and recovery gradually sets in. Not only does this theory embrace every observation in the list but all valid observations of stammering.

Let us pause in the discussion and consider what is to come. Up to this point we have approved, and approval seldom engenders opposition. But when it comes to disapproval the case is apt to be different. Dr. Reed or his adherents may say, "We no longer follow you." So it is necessary to make plain the ground of our disapproval. We have already shown that the speech-interference theory embraces many of Dr. Reed's observations, in fact, most of them. It develops that his other observations to be noted do not conform to the theory; so retention of these latter observations necessitates rejection of the twenty-two already given — an impossible course. In short, the revision of the observations to be noted is an inevitable result of the acceptance of the others.

Stammering does not sometimes begin at the beginning of speech as Dr. Reed thinks. It is true that we have occasional reports that it does. But these reports are hearsay testimony of the patient or his friends or parents. Since the affection generally begins between the ages of 3 and 7 the patient is not a competent witness, and since the inducing causes are frequently common occurrences such as falls, frights, ticklings, the particular occurrence responsible for the origin of the trouble might easily be overlooked; so the testimony of friends or parents cannot be accepted without question. On the contrary, many of the inducing causes are too serious to be readily overlooked, such as debilitating sicknesses, convulsions, dog bites and so on. The histories of these cases are so definite and so thoroughly in correspondence with the speech-interference theory that we are justified in believing that every inducing cause is of the same class, namely, an accident or incident which temporarily interrupts normal speech and invites the conscious misdirected effort which constitutes the stammering spasm. But the insurmountable obstacle to the "always stammered" cases is the intermittence of the disorder. Stammering is an impediment to speech. Speech is there, but it is impeded at times. Dr. Reed calls attention to the fact that the stammerer has speech. Hypnotize him and he is fluent; frighten him sufficiently and he is fluent: there are many ways of proving that he has speech. So, if he stammered always — that is, stammered from his first attempts to talk — he obtained his speech without learning it. In short it was a miraculous gift. It is bad enough to be obliged to dissipate the myths in the field of stammering, but it is crowding the mourners to expect disproof of alleged miracles.

Dr. Reed calls stammering a "disease," a "psychoneurosis" and "a symptom of a general neurotic and introverted personality." In the contradiction between the classifications of disease and symptom we find the element of disintegration characteristic of every disease theory. But he is even more indefinite. He says, "Might not any factor tending to produce an inferiority complex or an introverted attitude favor the production of the stammering neurosis? I have investigated carefully, the ordinary possible associations and fixations one might suppose would be productive of stammering and so far, I have been unable to trace any particular stammerer's difficulty to any special incident." Now let us clear up this doubt. Stammering does not arise from an inferiority complex nor from an introverted attitude, but the sense of inferiority and the selfconsciousness arise from the stammering. When I vainly tried to ask for a person at a door and the maid laughed at me, I felt inferior even to a domestic;

and the next time I stood at a door waiting for an answer to my ring I felt conscious of the possibility of more humiliation. In short, stammering is not a disease nor yet a symptom of a disease. It is a thoroughly understood complex habit, hitherto unclassified — the obstruction of an automatic process by a panicky, misdirected, conscious effort. And Dr. Reed's comparison of it with other apparently similar affections is highly important. It is inconceivable that there is only one disorder of its class, especially in view of the fact that so many human processes involve both automatic and conscious direction in almost indistinguishable demarcation.

Dr. Reed considers psychoanalysis to be of some application to stammering, although not so much as might be expected, as witness his remark, "I still believe that psychoanalysis will answer many questions with regard to stammering, but I do not believe that it solves the problem of this disorder in anything like the complete and clean-cut way in which it has succeeded in solving the problem of many of the other psychoneuroses." Let us consider the application of psychoanalysis to stammering. First comes its value as a means of determining the stammerer's hidden thoughts. If the process succeeds it will reveal that he thinks he has a defect in his speech and attempts to overcome the defect; but of what satisfaction is that revelation? Second, comes the application of the Freudian theory to stammering. But there is no application. Dr. Coriat himself has admitted the difficulty of finding the complex. Certainly there is difficulty, for no complex exists. Stammerers may possibly have complexes, just as some have cardiac leaks, and some enlarged thymus, and some traces of past rachitis, and so on, and so on; but neither complex nor any of the rest have any connection with their stammering. Third, comes the therapy; but with no complex, of what application is the therapy? Truly it is applied and truly it appears to produce results; but every therapy appears to produce results in stammering. No affection is more subject to suggestion, so every method under the sun appears to be efficacious at first — and then, relapse. Psychoanalysis is no exception to the rule. It has been thoroughly tried. Bluemel, Kenyon, Bryant, Makuen and many others condemn it. Not a few of its former exponents have receded from their advocacy of it, Coriat and Guggenheim among them. And Brill's very conservative remarks indicate anything but success for it. He says, "Too much time should not be devoted to routine practice. Most of the stammerers should be treated as average psychoneurotics. The prognosis in stuttering is usually bad. The treatment is very lengthy and trying. The permanency of the cure cannot be guaranteed." (Jour. Nervous and Mental Diseases, Nov. 1920, p. 423.)

Why longer mislead the poor stammerer with false hopes of cure? Stammering is as tenacious as memory, for it depends on it — memory of thousands of speech failures and of the humiliation consequent to them. I wonder sometimes that I was not consumed with the heat of my shame. Nothing will obscure those memories but speech success. Not one of the thousand-and-one tricks and schemes for banishing the affliction has any efficacy, and most of them intensify the trouble. The stammerer must back-track to get out. He got in by speech failure, he can get out only by speech success. He must desist from further speech failure, which is conscious interference with his speech, that is, stammering. Then what talking he does will be normal, because he has normal speech. It was his mistaken interference with it which made it appear abnormal. But he desires to recover as rapidly as possible. Then he must cultivate the environment which affords much fluent talking. How otherwise can he overcome the effects of years of stammering? He should talk all day long; or lacking such opportunity he should talk as much as is possible. Here is where the need for assistance comes in; not by the teaching of injurious respiratory and articulatory exercises and other alleged panaceas, but by keeping the stammerer in the spirit and in the situations which induce fluency. The stammerer himself cannot expect to make the progress which he will make under skilled assistance. His mentor can inquire into his daily routine and revise it so that inducements to stammer will be reduced to a minimum without unduly inconveniencing any one. The patient has to be brought to a determination to avoid stammering — a difficult task, for many confirmed stammerers prefer stammering to the alternatives of writing, making signs, spelling or foregoing an intended remark. The patient needs frequent encouragement; for progress is slow at best. It is the average of the fluency of a happy day and the returned doubts of a discouraging day; and without the support of an advisor the patient is likely to abandon himself to his old habits. The associates of the patient need to be instructed as to the proper attitude toward him. I have in mind the wife of a stammerer. She desired to help her husband to recovery of his speech, but in the interval in which he was hesitating for calmness to enable him to proceed fluently she would break in with an inconsequential remark of her own — improving the time, truly, but not improving her husband's speech, because he would hurry to keep the word and would tend to stammer. His wife had to be told plainly that her husband was to have, without interruption by anybody, all the time he desired to take. Every stammerer has "difficult" situations to encounter, such as asking the street car conductor for his transfer, selecting seats at the box office meeting election requirements, and so on to great length. Every such situation should be considered and arrangement should be made that each one, instead of contributing to the speech doubt, shall contribute to speech confidence. The adoption of such rational and beneficial measures will raise the treatment of stammering to a much higher plane than that on which it rests today.

CAN INSTINCTS BE GIVEN UP IN PSYCHOLOGY?

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MR. KUO'S recent most stimulating article, "Giving up Instincts in Psychology,"[1] implies two theses: (1) that our current definitions of instinct are self-contradictory and arbitrary, and (2) that a more careful analysis and observation would indicate that there are no instincts (in the sense of inherited tendencies) but that what we have been wont to call instincts in the past are really only habits.

Of the first of these theses I shall have nothing further to say. I am in the heartiest sympathy with it. It seems, in fact, to judge from the tenor of recent articles, to be rapidly gaining a widespread acceptance. Nor am I temperamentally, and before the fact, opposed to the second thesis. For it may very well be that further observation and study of just what does take place in the early days and years of the organism's development — such a further observation and study as that for which Mr. Kuo himself makes a plea — will substantiate his doctrine of the completely acquisitional character of instinct. I do wish, however, to outline what seem to me to be the alternative possibilities. For I think the outlining of such alternatives will help to make the issue clearer until such time as actual observation shall have come to the rescue and decided it.

I shall begin first by briefly summing up Mr. Kuo's theory in my own terms. It seems to me to have two parts: (1) the assertion that even in the case of the "units of reaction"[2] the connections between response and stimulus are acquired and not innate; and (2) the further hypothesis that, in the case of those more complicated forms of behavior, built up out of these "units of reaction" (which in the past we have been wont to call instincts) the form and pattern of the combination are also not innate but acquired. In a word, the doctrine seems to be summed up by saying that it implies that in the unlearned organism the nervous system is, as far as any innate sensory-motor connections are concerned, a completely uncharted sea.[3]

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[1] Journal of Philosophy, XVIII, November 24, 1921, pp. 645–664.

[2] Op. cit. p. 658.

[3] This perhaps would be asserted by Mr. Kuo only as regards those "units of reaction" which get combined into 'instincts' or habits. For he does seem to admit the functioning of certain independent elementary acts (op. cit. p. 664, i. e., relatively fixed reflexes) which are not of a sort to get integrated into more complicated reaction systems and to which he perhaps would allow a certain amount of innate givenness of the original sensory-motor connections.

Let us now, however, note certain further implications. How, we ask, if all actions both simple and complex are acquired, does it happen that much the same types of action get built up in all the different individuals of one and the same species? The answer of Mr. Kuo to this would seem to be threefold: (1) The different individuals of the same species all have the same sense-organs and hence must all be innately responsive to the same general types of stimulus. (2) They all have the same action systems (response organs) and hence their responses must necessarily fall into the same general kinds, and (3) they are all subject to much the same essential environment and hence are necessarily driven to similar types of complex behavior.[4] As regards (1) and (2) I have no criticism and I think Mr. Kuo has done us a great service in indicating their importance. Undoubtedly part of that which is distinctive of each species, and which we have been wont to attribute to the possession of special instincts (i. e., innate sensory-motor connections) is really the outcome merely of the possession of the specific sense-organs and response-organs peculiar to the species in question. But as regards (3); how, I would ask, if as Mr. Kuo's fundamental assertion states, there are no original connections of response to stimulus, can the presence of either the same environment or of different environments in any way determine the type of behavior the organism shall develop? To assume that the environment "demands" or calls out particular types of behavior[5] is to assume some fixed connection between type of stimulus and type of response. But the original presence of any such connections has been denied. This is a difficulty which as far as I can discover is nowhere resolved in Mr. Kuo's article. Fortunately, however, for the real understanding of the problem in question, the writer has had the advantage of personal conversations with Mr. Kuo, and, as a result of such conversations, he concludes that the latter really holds an additional hypothesis not stated in the article. This hypothesis maintains that although all responses *are* originally random, there is an operative factor which determines that certain ones of them shall soon get learned (i. e., attached to specific stimuli). This operative factor is the simple one that, if a random response succeeds in separating the organism from the exciting stimulus, the response gets learned;

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[4] Op. cit. pp. 653, 661, 662.

[5] "Our daily acts are organized as a result of environmental demands." Op. cit. p. 661. "The fact that the nature of environment determines the organization of reaction systems accounts for both social solidarity and individual differences in occupations and in types of behavior." Op. cit. p. 662.

otherwise not. This explains trial and error learning.[6] Having once accepted this further principle Mr. Kuo can go on to assume that when a unit response has once thus been learned it thereafter constitutes a specific connection of response to stimulus which can serve as the foundation stone in the building up (by the principle of the conditioned reflex) of more complicated adjustments. Accepting this principle as an addition to Mr. Kuo's thesis, we can sum up his entire doctrine by the following four points: (1) All the original unit acts are random (i. e., completely unattached to specific stimuli). (2) They do, however, soon get specifically attached to stimuli as a result of trial and error learning (i. e., if they are successful in separating the organism from the exciting stimulus). (3) When they have once thus got attached they are used in the building up, by the principle of the conditioned reflex, of those more complicated forms of behavior which we are wont to call "instincts" and habits. And (4) as the complement of (3) it is assumed that these more complicated forms of behavior themselves are acquired and never innate.

Let us turn now to the presentation of what, before further empirical observation shall have decided the issue, seem to me the possible alternative theories.

FIRST ALTERNATIVE

The first theory I would suggest would be one diametrically opposed to Mr. Kuo's. It would assume (1) that in the case of the original unit acts the connections between stimulus and response are fixed, and (2) that this also holds in the case of the more complex forms of behavior. As regards instincts, then, everything would be given and nothing learned. This, obviously, is the 'inherited-reflex-pattern' type of theory. And we need not dwell upon it further. Although it is still an a priori possibility the evidence seems to be fast accumulating against it even for the lower animals. See, for example, the work of Swindel[7] on nest building; of Craig[8] and Whitman[9] on the sexual anomalies of pigeons; of Hamilton[10] on the sexual anomalies of monkeys; of Scott[11] on the largely acquired character of bird songs. (To some of these Mr. Kuo has already referred.)[12] All this work shows a surprising ununiformity and variability in the instincts even of the lower animals.

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[6] Op. cit. p. 659. "The process of the integration always involves selection and elimination."

[7] Swindel, E. P., Amer. Jour. of Psychol., 1919, 30, 180.

[8] Craig, W., Jour. of Animal Behav., 1914, 4, 121–133.

[9] Whitman, C. O., "The Behavior of Pigeons," Carnegie Inst. Washington Publ., No. 257, 1919, p. 28–.

[10] Hamilton, G. V., Jour. of Animal Behav., 1914, 4, 295–318.

SECOND ALTERNATIVE

The next possible type of theory which occurs to me is one, which, while it would admit the non-original character of the more complicated forms of behavior would posit fixed innate stimulus-response connections for some at least of the 'units of reaction.' The complicated forms of response would then be built up, in the form of habits, out of and upon these simpler units.

Such a view may perhaps be identified with a certain feature in McDougall's well-known doctrine. In so far, that is, as he defines his primary instincts chiefly in terms of certain original simple stimulus-response sequences as, for example: running from, in the case of fright; striking at, in the case of fear; etc., and assumes, further, that it is upon the basis of these simple sequences, as such, that the later more complicated forms of behavior get built up; such would certainly seem to be his view.

It must be pointed out, on the other hand, however, that in so far as he emphasizes not these original simple stimulus-response sequences but rather the emotions as the permanent and central things and as constituting the cores for the later more complicated responses, his theory would be of a different type — of a type, it may be noted in passing, which, when translated into our language would be related to, if not identical with, the third alternative, to be presented below.

Another writer, whose theory sometimes at least seems to fall under this second alternative, is Kantor. In his article "How Do We Acquire Our Basic Reactions?"[13] we find him speaking of "basic forms of actions as infant behavior (e. g., vocalization whether considered as random acts or *instincts*) which soon become integrated into more complex responses."[14] Now, in so far as he accepts the latter of his two alternatives and assumes that the 'basic forms of actions' are

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[11] Scott, W. E. D., Science, 1901, XIV, 522.
" 1902, XV, 178.
" 1904, XIX, 154.
" 1904, XIX, 551.

[12] Op. cit., p. 657.

[13] Psychol. Rev., 28, 1921, 328–355.

[14] Op. cit., p. 328 (Italics mine).

instincts; i. e., involve innate stimulus-response connections, his theory seems to fall into the type we are here considering. It should be observed, however, that in so far, on the other hand, as he accepts the former of the alternatives and assumes that the 'basic forms of actions' are 'random' his theory becomes, on the contrary, identical with Mr. Kuo's. And it has to be admitted that in by far the larger portion of this particular article he does seem to be accepting this former alternative. For example, in his conclusion we find him asserting that "the number and kind of reaction systems we acquire depends entirely upon the kind and frequency of stimuli with which we are in contact, plus the reaction systems previously *acquired*."[15] On the other hand, it is to be pointed out, finally, that in other articles, both earlier and later, he leans pretty decidedly toward the view here presented of the innate non-acquired character of the instinct elements.[16]

Lastly, as a third possible representative of this Second Alternative let me suggest Thorndike. For it will be remembered what great emphasis he lays upon the simplicity of all that we may be supposed to possess in the way of innate responses.[17] He lists some forty-two simple innate connections between stimulus and response. And anything more complicated he apparently would assume to be built up upon the basis of these.

THIRD ALTERNATIVE

One remaining type of theory suggests itself to me. It would differ from Mr. Kuo's primarily in two features: (1) while it would also admit that the original 'units of reaction' are random, it would deny that they are completely random, but assert rather that their randomness is *usually* restricted within certain fairly definite and discoverable limits. Thus, when an organism is presented with a new stimulus for which no response has as yet been learned this theory would suppose, not as does Mr. Kuo's that the animal will respond with *all* the acts of which it is capable, but rather that it will ring the changes upon only a relatively small and definite number of such random acts. When, for example, a young infant is suddenly dropped from a slight height the theory does not suppose, as would Mr. Kuo's, that the child will coo and smile and make sucking movements *as well as* cry and draw in its breath, but merely that it will tend primarily to do the latter two.[18] The theory would not necessarily deny that there might be occasions where, if the stimulus were strong enough and 'relief' was not achieved by any of the first set of random acts, the child might eventually do *all* the things of which he was capable. It would merely assert that for any ordinary strength of stimulus only a certain somewhat restricted number of random acts tends to occur. (2) The second feature in which the theory would differ from Mr. Kuo's consists in the fact that instead of assuming merely one ultimate type of success (viz., the simple removal of the organism from the given exciting stimulus) it would assume a number of different types of success. It would assume, further, that the nature of these successes would be in each case related to the underlying factor which also explains which particular set of random acts tends to occur on that occasion. The explanation of the mechanism of this underlying factor depends upon the assumption of what we will call "driving adjustments." These are to be conceived as internal behavior-sets originally and innately set off by particular types of stimulus. These adjustments tend to release particular groups of random acts, which ordinarily ring the changes upon each other in a purely haphazard fashion until some one finally occurs which presents the organism with some new stimulus or condition which automatically leads to the disappearance of the driving adjustment itself. Thus, for example, suppose the driving adjustment is that condition which on its introspective side we call hunger. This driving adjustment releases a series of random acts — not ordinarily all the random acts of which the organism is capable, but only a certain discoverable set — seeking movements of head, face and lips, etc. These continue in random fashion until some one or combination of them occurs which achieves food so that the driving adjustment itself thereby becomes removed. This act or set of acts constitutes *success* and tends to be learned; i. e., to become specifically attached to the whole situation (to the hunger adjustment itself and to the type of external stimulus then present). It is to be seen, therefore, that it is the nature of the driving adjustment which determines both which acts shall be released and which one or ones shall constitute success. And when once these simple specific stimulus-response connections have been formed then the building up of more complicated forms of behavior in terms of habit can be easily accounted for.

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[15] Op. cit. p. 354 (Italics mine). It is to be observed that in so far as he adopts this other theory he is equally lacking as was Mr. Kuo in any expressed statement of an underlying principle whereby changes in the "kind and frequency of stimuli" (Op. cit. p. 331) can come to effect the building up of fixed responses out of initially random ones.

[16] Cf. "A Functional Interpretation of Human Instincts," Psychol. Rev. 27, 1920, pp. 50–72, especially 56 ff. And "The Psychology of Reflex Action," Amer. Jour. of Psychol., 33, 1922, pp. 19–42, especially 38 ff.

[17] "Educational Psychology," vol. 2, Teachers College, Columbia University, 1913.

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[18] Cf. Watson, J. B., "Psychological Review," 26, 1919, 165–196.

To sum up, then, the theory as so far expressed; it assumes (1) that, whereas there are no innate connections of external response to external stimulus, there are innate connections of specific types of driving adjustments to particular types of stimuli, external or internal; (2) that these driving adjustments tend to release particular sets of random acts, and (3) that that random act or set of acts get learned; i. e., specifically attached to the external situation and the driving adjustment in question, which leads to the removal of said driving adjustment.

But there is another important feature of the theory yet to be emphasized; to wit, that these driving adjustments while they are to be assumed as ultimately explainable in terms of underlying physiological sets, are nevertheless, primarily identifiable and describable, not in physiological, but in behavior terms.[19] And when thus described they are found to be stated primarily in terms of the abstract natures of the successes which they respectively predicate. Let us, for example, for purposes merely of illustration, list tentatively the following as possible original types of driving adjustment: flight, pugnacity, repulsion, curiosity, parental instinct, self-assertion, self-abasement, hunger and sex.[20] The list is for illustrative purposes only and does not claim special validity or exhaustiveness. Let us, now, examine it. It is to be observed that in each case an identifying description can be made simply in terms of the abstract type of success predicated quite irrespective of the specific object responded to and the specific detailed nature of the response. Flight equals getting away from an object; pugnacity — attacking an object; repulsion — avoiding an object; curiosity — manipulating an object; parental instinct — caressing an object; self-assertion — determining the behavior of an object; hunger — eating an object; and sex — arousing activities of the sexual organs by means of the presence of an object. The particular objects fled from, fought, avoided, etc., will depend upon the chances of the first arousal plus learning, and, similarly, the detailed nature of the response itself, whether it consist of running, walking, hiding, etc., in the case of flight; striking, kicking, biting, etc., in the case of fighting; pushing, turning up nose, turning away face, etc., in the case of repulsion, will likewise be a matter of the chances of the first arousal plus subsequent learning; and so on. But the nature of these different responses will always be reducible to the same abstract terms in which the underlying driving adjustments themselves are to be defined.

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[19] Indeed we usually do not know what the underlying physiology is.

[20] It may be noted in passing that I have simply taken McDougall's seven primary instincts and added hunger and sex.

Another feature about the doctrine which thus appears is that, as thus behavioristically defined, these adjustments are found to be stated in purposive terms. They are defined in terms of the ends they achieve. This means, not that those ends are necessarily before the organism itself, but rather that they are before us the observers. They are the conceptual pegs upon which *we*, for convenience, hang *our* descriptions. When we observe an organism time and again running, hiding, flying, walking from objects, we descry a similar element in each of these behaviors which for descriptive convenience we may identify in the teleological terms of "getting away from an object." It is to be observed, however, that this need of teleological language by no means implies that all such behavior cannot be explained physiologically in a purely causal fashion.

Finally, one more feature of the theory must be noted; viz., that just as Mr. Kuo's does, it also avoids the assumption of any mysterious degree of 'pre-established harmony' between the specific nature of the environment which the young organism is to be born into and the specific nature of the responses which he is to make to it. It does suppose, however, that the driving adjustments are *innately* set off by particular types of exciting stimulating conditions; and it does suppose, further, that they are innately neutralized by certain other particular types of relaxing stimulating conditions. So that it does assume enough pre-established harmony such that, if the organism's driving adjustments are to achieve success, the given exciting stimulating conditions will usually, and in the main, be connected with somewhere nearly the "right" driving adjustments, and such that somewhere near the "right" environmental rearrangements will produce the requisite relaxing stimulating conditions. For example, it does have to assume (i. e., if the organism is to survive) that the original innate exciting stimulating condition for the driving adjustment of flight shall not innately be attached to such environmental conditions as the protective presence of the parent, but rather to such environmental conditions as those of loud sudden disturbances; and similarly, it does have to assume that the original and innate relaxing stimulating condition for this same adjustment of flight shall not innately arise from the nearer presence of the original frightening object, but rather from a decreased intensity of it; and so on. But whether the original frightening object shall be gun, loud voice, or what not, or just in what mode of locomotion successful getting away shall prove to consist, is not pre-established but is a matter dependent upon the chances of experience. Finally, the amount of pre-established harmony which is thus assumed seems to be no more than can easily be accounted for on the basis of evolution.

We may now, then, once more sum up the features of this third type of theory. (1) Whereas there are no innate connections of external response to original stimulating condition, there are innate connections of specific driving adjustments to original external or internal stimulating conditions. (2) These driving adjustments tend to release particular sets of random acts. (3) They also set a particular goal for the random acts in that these acts tend to continue until some one occurs which provides a stimulating condition which *innately* relaxes the driving adjustment itself. (4) These driving adjustments are definable in terms of the purely abstract types of success which they predicate. (5) As so defined they necessarily involve a teleological use of language. (6) The theory predicates no mysterious degree of pre-established harmony between the nature of the environment and the nature of the organism. This theory, it seems to me, is in all essentials the one advocated by Woodworth.[21] And to him, I believe, belongs the credit for having first suggested it. It must be observed, however, that his discussions of what we have been calling the driving adjustments are almost entirely in terms of the physiology underlying them. This restriction to physiology has prevented him from realizing the possibility and importance of their purely behavioristic definition and that they can be so defined even when their underlying physiology is not known.[22] It is to be noted, further, that Perry also in a series of extremely original and stimulating behavioristic studies of Purpose and Knowledge has evolved a doctrine which, when worked out in its psychological (as distinct from its epistemological or value) details, would seem to imply much this same theory of instinct.[23] It is to be pointed out, however, that in these articles Professor Perry was not interested in the problem of instinct as such (i. e., the problem of innate connections) and hence his discussions imply a theory of instinct rather than state one.[24] The present theory has also been previously urged by the present writer,[25] although at that time its implications were not worked out in such detail.

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[21] See particularly his last book, "Psychology — a Study of Mental Life," Holt, 1921. The theory is also presented in less developed form in his earlier series of lectures, "Dynamic Psychology."

[22] As a matter of fact his actual method of identifying individual adjustments would seem to be in introspective terms, which may be very well in the case of human adults, but certainly fails in the case of the lower animals and infants.

Lastly, it is to be noted that in its essential features the theory is closely related to one of the most important aspects of McDougall's doctrine. What is it, in the last analysis, which gives the latter its overwhelming appeal? The significant points about it which do this, it seems to me are two; first, the positing of a specific type of central tendency or disposition (the emotion) which remains constant no matter what the varying circumstances of actual stimulus and actual response; and, second, the positing of a special type of abstract response originally given for and appropriate to each such central set or tendency (i. e., running away, in the case of fear; striking out, in the case of anger, etc.). But it is these two features which are the significant points about our theory. And our theory seems to me preferable, first, in that it gives a behavioristic rather than a merely mentalistic (i. e., the emotion) account of these central sets; and, second, in that it emphasizes more clearly the non-specific nature of the type of response; for example, not as running away, or walking away, or flying away, but merely as getting away, irrespective of the particular type of locomotion employed.

Finally, before concluding, it may not be amiss if, merely for purposes of rhetoric, we attempt to give the theory a little more concreteness by indicating a possible, though not necessarily correct, physiological substructure for it. I find the possibility of such a substructure in the very suggestive though no doubt still somewhat chaotic notion of Kempf's[26] of the autonomic and projicient apparatuses. He supposes that the autonomic nervous system, together with the unstriped muscles and glands which it innervates, constitute a single independent and relatively autonomous mechanism. It is this autonomic apparatus which is to be conceived of as the prime mover of the organism — as that which controls and sets the goals for the projicient apparatus; i. e., the cerebro-spinal nervous system plus its terminal organs. When a stimulus external or internal excites the autonomic apparatus it causes some adjustment of viscera or of postural tension. This adjustment results in the arousal of a series of sensory impulses in the organs affected which flow into the cerebro-spinal system and there constitute what he calls an affective stream or "itch" (e. g., that of hunger or sex) which innervates this system, i. e., the projicient apparatus. This affective stream keeps the organism restless and moving until it eventually achieves a new stimulus which produces an opposing or neutralizing adjustment.[27] All we need to do is to explain our driving adjustments in terms of Kempf's adjustments of the autonomic apparatus and our 'random movements' in terms of his movements of the projicient apparatus and we will have the requisite substructure.

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[23] Perry, R. B., "Docility and Purposiveness," Psychol. Rev., 1918.

"A Behavioristic View of Purpose," Jour. of Philos., 18, 1921, pp. 85–105.

"The Independent Variability of Purpose and Belief," Jour. of Philos., 18, 1921, pp. 169–180.

"The Cognitive Interest and its Refinements," Jour. of Philos., 18, 1921, pp. 365–375.

"The Appeal to Reason," Philos. Rev., 30, 1921, pp. 131–169.

[24] His "Determining Tendency," in other words cannot be directly identified with what we are here calling driving adjustment. It would be something based upon this driving adjustment but would seem capable of involving acquired factors as well.

[25] E. C. Tolman, "Instinct and Purpose," Psychol. Rev., 1920, 27, pp. 230.

[26] Kempf, E. J., "The Autonomic Functions and the Personality," 1918, Nervous and Mental Diseases, Monograph Series, No. 28.

The fact that the random units of reaction on any given occasion fall within a certain relatively restricted limit of possibilities would be explained by supposing that the affective sensory stream resulting from the given autonomic adjustment, the given driving adjustment, is of such a nature as to excite innately only certain of the projicient activities. Thus, for example, when the infant is stimulated by having its limbs restrained, one sort of autonomic adjustment may be assumed to take place such that it goes through one set of random movements (the strugglings and cryings of anger). When stimulated by a loud sudden noise, another adjustment takes place and it goes through a second somewhat, though not entirely, different set of activities. Finally when stimulated by stroking or patting still a third adjustment takes place, and a third set of projicient activities; those of reaching out, smiling, cooing, etc.[28]

The feature of our theory which assumes that the same mechanism explains the *success* of a random act is provided for by supposing, as is assumed by Kempf, that success consists in any act which succeeds in providing a new stimulus which automatically and innately produces an opposing or neutralizing autonomic adjustment. Certain difficulties about the picture no doubt remain. It is not, for example, altogether clear just what would be the relative functions of the internal sensory stream coming from the driving adjustment, and of the sensory impulses coming from the external stimuli as such. When Thorndike's kitten,[29] for example, is shut up in the puzzle-box and goes through its random acts of scratching, clawing, biting, etc., these acts are certainly controlled and guided not merely by some internal sensory stream but also by the sensory stimuli coming from the outside; viz., the parts of the cage scratched at, clawed at, and bitten. What may be assumed to be the relative functions of these two sets of sensory stimuli? Let us consider the case of the absolutely unlearned organism. In the case of such an organism it is presumably the internal stimuli which alone function. Such an organism's acts are *really and truly* random. It will go through a whole set of random hittings, strikings-out, etc., quite independently of the true nature of the surrounding objects. And we may suppose that as a result of the contacts, i. e., as a result of the new stimuli which these contacts furnish, the organism will acquire attachments of its activities to these objects. This attachment to external stimuli is to be conceived as the first instance of that whole process the nature of which we are explaining. We assume, in short, that those random strikings-out which 'score hits'; that is,which come into successful contact with surrounding objects, are more pleasing to the organism in that they lead to stimuli producing a more successful re-establishment of autonomic equilibrium than is the case for the non-scoring strikings-out. Hence it is the former which tend to get learned — attached to the external stimuli in question. To return, now, to Thorndike's kitten: we must assume that at an early age; i. e., long before it was first confronted with the puzzle-box situation, its purely random acts had become developed and modified to the extent of becoming attached to definite external stimuli, so that when put in the box its desire for escape (i. e., its controlling autonomic adjustment) led for the most part to bitings, scratchings and clawings of the actual cage and not to mere mid-air activities.

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[27] Part of the plausibility of Kempf's doctrine depends upon his thesis that the skeletal muscles contain unstriped as well as striped components, and that it is the unstriped components which control postural tension and that these are part of the autonomic system.

[28] Watson, J. B., Op. cit.

The answer, then, to our original question as to the relative functions of the internal and external stimuli in the production of random acts would seem to be the following: Originally it is the internal autonomic-adjustment-produced stimuli which alone function. They produce *really* random acts; i. e., acts which have no dependence upon or necessary relevance to the external stimuli actually present. Soon, however, these really random acts tend to lose their pure character and to acquire specific attachments to external stimuli.[30] And whenever thereafter an autonomic adjustment gives rise to a series of random acts these acts are for the most part no longer purely random, but acts which are already modified; i. e., selected and attached to specific external stimuli. In this latter stage we may perhaps sum it up by saying that the internal stimuli release the acts and determine the type, but that the external stimuli provide the specifying control and regulation. For example, the internal stimuli would determine which of Watson's three sets of random responses[31] anger, fear, or love, should be released, but the external stimuli would guide and regulate the particular cryings, hittings, reachings-out, head-turnings, etc.

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[29] Thorndike, E. L., "Animal Intelligence," Macmillan, 1911, p. 38.

A second detail about the hypothesis which also remains to be discussed concerns, of course, the matter of the exact mechanism of learning. We have supposed that acts get learned; i. e., re-enforced and attached to external stimuli, in so far as they result in new stimuli which innately (or as a result of acquired connections) lead to an opposing neutralizing sort of autonomic adjustment. Now, obviously, this is a pretty large assumption and we must admit our present complete inability to give an adequate explanation for it. But we can at least show as much justification for it as for any of the other current assumptions, including Mr. Kuo's that learning depends upon the removal of the exciting stimulus itself. This whole matter of the underlying mechanism of the fixation of arcs in trial and error learning[32] is, of course, one of the dark chapters of psychology. On the one hand we have Watson and his followers emphasizing the mechanical efficiency of mere frequency and recency, and on the other we have Thorndike, while admitting the efficiency of recency and frequency in his "Law of Exercise," also emphasizing the importance of the resultant pleasure and pain (or of their concomitant physiological effects) in his "Law of Effect."[33] Now, it may be noted that the assumption we have made above could, if necessary, be brought under either head. The re-establishment of autonomic equilibrium could be declared to be the physiological basis for pleasure and the lack of such re-establishment the physiological basis for pain. Or, on the other hand, it could be declared that the reason that the act leading to the autonomic readjustment was learned was primarily because it had the advantage of frequency and recency, because, by hypothesis, it necessarily terminates any series of acts and, therefore, must always occur at least once in each trial, and must also be the most recent at the beginning of each new trial.[34] Our doctrine, therefore, would seem to have as good a chance as any other.

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[30] The most obvious case of this type of process would seem to be the acquiring of spatial adjustments; that is, the acquiring by the young organism of the ability to strike, claw, etc., at the actual space points from which visual stimuli excite it. The latter may develop perhaps in part *in utero*.

[31] Op. cit.

[32] Cf. Watson, J. B., "Behavior, An Introduction to Comparative Psychology," Chap. VII.

So much for a sketchy suggestion as to how Kempf's doctrine might perhaps be used as a physiological basis for this third type of alternative theory. But quite apart from the correctness or incorrectness of this or any other physiological picture, the behavior implications of the theory, its doctrines of driving adjustments and of random acts, do seem to us valid.

In conclusion, let us again draw attention to Mr. Kuo's own theory and to each of the three alternatives which, a priori, all seem to be possible views until further empirical observations shall have been made. But let us also confess our own faith that *instincts cannot be given up in psychology*, but rather that they must be retained, and retained under some such conception as that of the driving adjustment of this third alternative theory.

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[33] Thorndike, E. L., "Animal Intelligence." A long list of further theories, but all more or less modifications of one or the other of the above two, could be made out. For an illuminating discussion of this whole matter see Kuo, Z. Y., "The Nature of Unsuccessful Acts and Their Order of Elimination in Animal Learning," Jour. of Comp. Psychol., Vol. II, 1922.

[34] In this connection cf. Watson, J. B., op. cit., p. 259 ff.

THE MEANING OF "INHERITED" AND "ACQUIRED" IN REFERENCE TO INSTINCT

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ON account of the present-day reaction among numerous psychologists against the instinct theory, a restatement of it is called for, which will embody the truths contained in the older views, and which will be also in accord with the best of modern biological and psychological investigations. I attempted such a restatement in a recent article in this journal (Vol. 16, pp. 334-43). A more detailed examination is needed, however, of one theme of that article, namely, the meaning of "inherited" and of "acquired" in reference to instinct.

In the above-mentioned article I quoted from a considerable number of psychologists who deny the existence of instincts. Professor Kantor's position may be taken as typical of that of several psychologists at the present time, the position, in brief, that: "Human instincts . . . in the adult individual are completely absent. . . . Mature persons possess no instincts" (*Psych. Rev.*, Vol. 27, pp. 52, 56). And the grounds, also, upon which Professor Kantor attempts to maintain this position are typical of those of many. These grounds are the observation that all reaction-patterns are acquired during individual development, and the claim that hence they should be called habits rather than instincts. Professor Kantor says, for example: "It is axiomatic that all of our reactions, no matter how basic or widespread, must have a history in the actual behavior life of the person. No capacity or potentiality can be anything but an acquired reaction system. . . . Under no circumstances can we admit that our reactions are the sheer unfolding of forces or processes within the person alone, uninfluenced by stimuli, which are presumed merely to set off reactions without conditioning their existence" (*ibid.*, Vol. 28, pp. 330, 354).

No better statement could be made of facts which, it would seem, should be obvious to all. I would agree wholly with the statement that all action-patterns are acquired during individual development, in the broad sense of the term "acquired." But I would maintain, at the same time, that some of these action-patterns are inherited, since the notion of "inherited" properly includes the notion of "acquired." Those psychologists who deny instincts, defined as inherited action-patterns, for the reason that, as they correctly observe, all action-patterns are acquired during individual development, *have grasped but half the truth* — the truth, namely, that heredity includes the notion of constant environmental conditions influencing the development of somatic structures from germinal factors.

If one should define as inherited those bodily structures which develop of their own accord from determiners in the germ-plasm, without reference to environmental influences, then, of course, no action-patterns could be called inherited and there would be no instincts. But such a concept of "inherited" is an impossible one. According to it, nothing at all could be inherited, since nothing develops from germinal factors without environmental influences. It is unquestioned, especially in view of the work of Mendel, that heredity is a fact. Since heredity is a fact, and since no traits, even such as physical stature, color of eyes, etc., develop "of their own accord" from factors in the germ-plasm, then we must obviously include environmental influences in the notion of "inherited." As Dr. Sumner has well expressed it: "If we insist that heredity relates only to the 'intrinsic' factors in the situation — to the material constitution of the germ-plasm independent of environmental influence at any period — it seems to me that *we are dealing with something entirely imaginary*. There never is a period in the history of the germ-cells or their forerunners when they are not vitally dependent upon their living environment. Every step in their history involves an interaction between certain factors which may be called 'intrinsic' and other factors which are external to these. If we could detach all environmental elements from this complex there would be no organism left" (*Scientific Monthly*, Vol. 14, p. 231. Italics mine).

I

The acceptance of the position that there are inherited action-patterns, or instincts, which depend in part for their development upon environmental conditions, requires first of all an understanding of just what the view is. It requires an examination of biological data which have a direct bearing upon the problem.

Two sets of conditions operate in the production of an organism: first, germinal elements in the fertilized ovum; and second, external factors which act upon the fertilized ovum and upon the organism as it gradually develops from the ovum. The external influences, comprising the chemical composition of the food supply, conditions of light, temperature, and moisture, and all the forces which operate as the stimuli for reactions of muscles and glands, are commonly grouped under the concept of environment. The term "heredity" is sometimes limited uncritically, especially in popular writing, to the elements of the fertilized ovum. According to this view of the meaning of heredity, the term would apply only to the determiners transmitted directly from generation to generation in the germ-plasm. A dichotomy between heredity, conceived in this manner, and environment is at the basis of much if not all of the present-day thinking and writing that attempts to discredit the instinct theory. If by "inherited" we meant "transmitted as such in the germ-plasm without environmental influence," then, of course, there could be no inherited action-patterns. There are, obviously, no action-patterns present in the ovum at the end of fertilization, at which point the transmission of germinal factors has already completely occurred. But neither are there present bodily structures of any sort. From this fact, of the absence of all somatic structures in the fertilized ovum, would one conclude that *nothing* is inherited? Obviously not. Since, however, inherited traits are not transmitted as such in the germ-plasm, we must broaden the concept of "inherited" to include the notion of the operation of those environmental factors which are normally present. Heredity, then, must include both intrinsic factors, namely, the determiners in the germ-plasm, and extrinsic factors, namely, constant, or normally present, environmental conditions.

The contrast between heredity, conceived in such terms, and environment ceases to be an accurate division. Similarly, the contrast between "inherited" and "acquired" ceases to be scientifically accurate, inasmuch as the correct notion of "inherited" includes "acquired under normal environmental conditions." Such contrasts are valid only if the terms "environment" and "acquired" are used in the limited sense which they should possess in Lamarckian-Weismannian discussions of the question of the inheritance of so-called acquired characters. By the term "environment," as used in such discussions, there should properly be denoted only *abnormal* extrinsic conditions which cause the organism to acquire *unusual* characters. For example, the tailless rats in Weismann's classic experiment were the result of abnormal, or unusual, environmental conditions, that is, they were the result of the mutilating operations of the experimenter. It is not in this limited sense, however, that "acquired" is used by psychologists at the present time in discussions of instinct, but in the more general sense which would include normal as well as abnormal environmental conditions.

Not only in popular discussions and in the writings of psychologists, but also in the writings of biologists themselves there is sometimes confusion on these points. For example, in Conklin's book, *Heredity and Environment*, is found the following: "The development of an individual or the evolution of a race is dependent upon the interaction of two sets of factors or causes, the intrinsic and the extrinsic. The former are represented by the organization of the germinal protoplasm, the latter by all other conditions; *the former are known as heredity* or constitution, the latter as environment or education" (p. 309 of 2nd edition. Italics mine).

That the correct notion of "heredity" must include more than merely intrinsic, that is, germinal, factors may be shown concretely by reference to numerous experiments in embryology. For millions of years vertebrates have inherited paired eyes. That the development of paired eyes is not dependent solely upon intrinsic, or germinal, factors, however, has been demonstrated by Professor Stockard. Paired eyes develop only as a result of germinal factors plus normal environmental conditions. In 1907 Professor Stockard first experimented on the fish *Fundulus*. By increasing the amount of magnesium chloride in the sea-water in which the eggs were developing, organisms with single, median, cyclopean eyes were produced (see C. R. Stockard, "The Development of Artificially Produced Cyclopean Fish — 'The Magnesium Embryo,' " in the *Jour. of Exp. Zool.*, Vol. 6, pp. 285-337). The Showy Sedum (*Sedum spectabile*) when grown in a normal environment of white light produces by heredity an average of 1324 flower buds. When grown in an abnormal environment of red light it produces only 405 flower buds, and when grown in blue light it produces none at all (see Klebs' experiments, reported in Babcock and Clausen, *Genetics in Relation to Agriculture*, pp. 21, 22). Abnormal temperature conditions during the development of the diurnal peacock butterfly (*Vanessa io*) cause the fading out of the "peacock-eye" mark, which is inherited in a normal environment (see Goldschmidt's experiment, reported in Babcock and Clausen, *op. cit.*, pp. 22, 23). Beebe subjected pigeons (*Scardafella inca*) during growth to an abnormally moist atmosphere and produced birds with a higher percentage of pigment in the feathers than is ever inherited in a normal environment (Babcock and Clausen, *op. cit.*, p. 25).[1]

Such experiments, typical of a large number which might be mentioned, show clearly that extrinsic, or environmental, factors play a part in the development in the individual of those traits which are properly called hereditary. *All* characters are acquired during the lifetime of the individual. Some of these characters we correctly call hereditary, however, namely, those which will inevitably appear in a normal environment. Other characters which develop only in an abnormal environment are not properly called hereditary. Such characters are the ones called "acquired" in Lamarckian-Weismannian controversies. Habits, as distinguished from instincts, are acquired in this limited sense of the term. The environment of civilized man, which is productive of numerous habits, or non-hereditary action-patterns, in each individual, is artificial and abnormal in many respects from the point of view of the biologically normal environment. It still contains, however, enough of the normal conditions of the primitive biological environment to make inevitable the inheritance of instincts.

II

When it is recognized that all somatic traits are acquired during individual growth, in the broad and generally accepted sense of the term "acquired," inasmuch as none are present in the fertilized ovum, and when it is recognized further that heredity is a fact, including not only intrinsic but also extrinsic factors (a normal environment), then the denial of instincts on the ground that action-patterns commonly called instincts are acquired loses its force. If *all* hereditary traits are acquired, that is, are dependent in part on environmental factors, then there is no *a priori* reason why certain action-patterns may not be hereditary even though dependent in part on environmental conditions. Moreover, there is satisfactory empirical evidence that some action-patterns *are* hereditary. Professor Kantor says correctly, as quoted above, "Under no circumstances can we admit that our reactions are the sheer unfolding of forces or processes within the person alone, uninfluenced by stimuli [that is, by environmental forces]." Such an observation, however, is no refutation of the instinct theory, as is claimed by Professor Kantor and by others, for example, by Kuo, Ayres, Bernard, and Allport (see citations and references given in my article in this journal, Vol. 16, pp. 334-43). It is merely a recognition that instincts are not transmitted as such in the germ-plasm any more than other hereditary somatic characters are transmitted as such in the germ-plasm. Hereditary action-patterns must obviously be subject to the same conditions that govern the development of all other hereditary structures.

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[1] See also: H. J. Bagg, "Disturbances in Mammalian Development Produced by Radium Emanation," in *Amer. J. of Anatomy*, Vol. 30, pp. 133-54; F. M. Alsop, "The Effect of Abnormal Temperatures upon the Developing Nervous System in the Chick Embryos," in *Anat. Rec.*, Vol. 15; E. S. Goodrich, "Some Problems in Evolution," *Science*, Vol. 54, pp. 529-38.

The removal of the objection that there are no instincts inasmuch as environmental influences are an essential condition for the development of all action-patterns is, of course, no positive proof that there *are* instincts. Such proof must rest, first, upon a study of the universal elements constituting a normal environment so far as the acquisition of action-patterns is concerned, and second, upon an observation of the fact of the universality of certain types of action-patterns among all races of man, savage and civilized, and among the higher non-human animals. Evidence for the second point, regarding the universality of the basic types of action-patterns, was presented in my article on "The Value for Social Psychology of the Concept of Instinct," especially in the citations from Darwin's *The Expression of the Emotions in Man and Animals.* More detailed evidence is contained in such works as McDougall's *Introduction to Social Psychology* and James's *Principles of Psychology*, in the chapter on "Instinct." Evidence for the first point, of the fact of conditions universally present in the environment both of savage and of civilized man, was also given in the article referred to. Further evidence on this point is to be found in the studies by James, McDougall, and numerous others. It was pointed out in the above-mentioned article that the environmental conditions universally present in any normal environment, savage or civilized, are of two sorts: first, internal stimuli (which are environmental factors, being external to the germinal factors and to parts of the organism, even though internal so far as the organism as a whole is concerned); and second, such external factors as edible objects (the external stimulus of the food instinct), members of the opposite sex (the stimulus of the sex instinct), the presence in groups of other members of the same species (the stimulus of the gregarious instinct), the presence of inferiors and of situations in which the individual is in some respect superior to the group (the stimulus of the instinct of self-assertion), situations interfering with activities and impulses (the stimulus of the instinct of pugnacity-anger), and so on for the parental instinct, and the instincts of self-abasement, curiosity, fear, and the like. Even though modern man, living under conditions of civilization, does not encounter sabre-tooth tigers and all the other specific objects which existed in the environment of his earlier ancestors, still the normal environment at the present time contains the same universal elements, embodied in new sets of particular objects, which, when embodied in the particular objects of the primitive environment, constituted the stimuli of the instincts of primitive man. Instincts are reactions to the universal elements (in their physical and chemical aspects) of specific objects and situations, and not to particular objects as such. For example, the fish which reacts positively to the worm on the fisherman's hook reacts to the particular worm in question only in so far as the worm is an exemplification of the universal which constitutes worms and certain other objects members of the class of edible objects. The specification or specialization of instinct (see James, *Psychology*, Vol. 2, pp. 394ff), by which one object of a group comes to be the only adequate stimulus of the instinct, is a matter of habit-formation and is not inherited.

III

It is of importance that psychologists should keep clearly in mind, in their discussions of instinct, the correct meaning of heredity. When even biologists themselves are sometimes confused and confusing in their treatment of the subject, as was noted above, it is not surprising that some psychologists should fail to see that "hereditary" is not synonymous with "intrinsic," or "germinal," but includes normal environmental conditions. Practically all, if not all, of the psychologists who at the present time deny instincts *do* fail to consider this point or else they could not think and say that they have refuted the instinct theory by showing that no action-patterns mature "of their own accord," uninfluenced by the environment. It would be possible, however, for psychologists to recognize this fact, that heredity includes normal environmental conditions, and that all hereditary structures are acquired, in the broad sense of the term, without thereby ceasing to be properly called hereditary, and, at the same time, to contend that there is no connection between such cases as were cited above, *e. g.*, the one-eyed fish illustration, and the problem of instinct. Such a contention, nevertheless, can be shown to be groundless. In the first place, it should be noted specifically that instincts in their hereditary aspect are purely structural, that is, they are patterns of differential resistance in the synapses of the nervous system. If for any reason one should wish to denote by the term "instinct" behavior itself, then one would say that instinct is the function of inherited structure. The fact would remain that the development of the inherited structure would be subject to the same laws that govern the development of all other inherited structures. That is, normal environmental conditions would play a part in the production of the nervous structures involved in instincts, just as much as in the development of the paired eyes of the fish *Fundulus*. The problem of the acquisition in individual development of hereditary action-patterns is a problem of embryology and morphology.

It should be noted, in the second place, that the concept of the external environment which plays a part in the development of organisms includes not merely nutritional elements, and conditions of temperature, light, and moisture, but also all stimuli for reactions of muscles and glands. And conditions of use, or exercise, of already developed structures become a part of the normal (internal) environment, exerting an influence in the later development of other structures. This aspect of the normal environment is important in the acquisition of hereditary action-patterns. For example, many simple reflexes must have become integrated before the more complex response of locomotion is possible, but it would be only in an abnormal environment that the prerequisite integration of the simpler reflexes would fail to occur. A child that grew up without a surface, such as the floor or ground, upon which first to lie and sit would never creep, stand, and walk, but such an environment would not be normal, or even possible.

In the third place, emphasis should be laid upon the fact that responses of inherited action-patterns involving principally the autonomic nervous system and the unstriped muscles, that is, the emotions in their physical aspect, constitute important internal environmental conditions normally present and operative in the development of instincts, which are action-patterns involving principally the cerebro-spinal nervous system and the skeletal muscles.

Much confusion would be avoided in discussions of concrete problems of instinct and of habit if correct concepts of "inherited" and "acquired" were employed. Both habits and instincts are acquired in individual development. Habits are not inherited since they are acquired as a result of environmental conditions which are not constant or normal in the biological sense, and since, in the second place, they are due wholly to environmental influences, and not directly at all to germinal factors. Instincts, on the other hand, are inherited, being dependent both on germinal factors and on normal environmental conditions. If, to conform to frequent, though inaccurate, usage of the terms "inherited" and "acquired," one should wish to speak of instincts as inherited and habits as acquired, one should specify that the term "acquired" is being used in the special and limited sense in which it may apply to habit only, and not to instinct, the sense, namely, in which it has been employed in Lamarckian-Weismannian discussions, as indicated above; and one should specify that the term "inherited" is being used in the sense which is inclusive of normal environmental influences. But it is not in these senses that the terms are being used by writers on habit and instinct.

AUTOMATIC WRITING AS AN INDICATOR OF THE FUNDAMENTAL FACTORS UNDERLYING THE PERSONALITY

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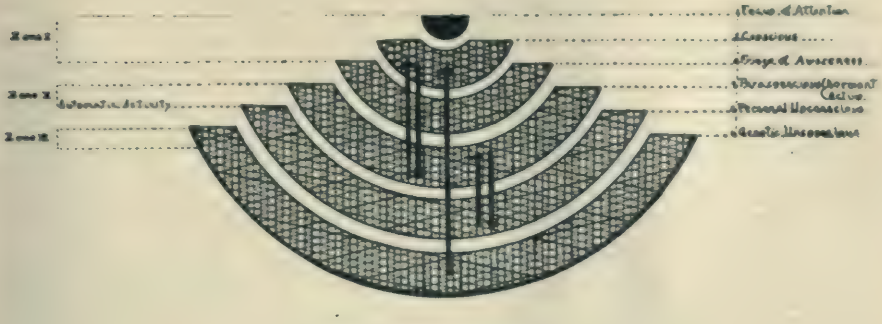
PART I

THE cases of automatic writing which will be described in the following pages were observed in women who to all outward appearances and to superficial examination are perfectly normal. They have adjusted well not only to their environment but also to all periods of stress and strain which they have encountered. The casual observer would with difficulty be convinced that these charming, intelligent and efficient women are potentially psychotic. However, I hope to be able to show that automatic writing is not only an indicator of an unstable mental background, but also of some of the fundamental factors which help to make up the personality.

In order to do this it may be well before presenting the cases to discuss briefly the levels of Consciousness, or as I prefer to think of them, plateaus in the range of consciousness. Many terms have been used to describe these various states and there has been some confusion owing to the numerous definitions and designations given by different writers. Prince who has given us such clear cut definitions has unfortunately limited his field so as to exclude some of the newer theories of the psychoanalytical school which can not be ignored entirely. Therefore I shall attempt to incorporate some of these newer ideas with the older ones and offer a set of definitions which will assure the reader of the meaning which the various terms I shall employ have for me.

(1) The Focus of Attention is the spot light of Consciousness. (2) Consciousness is our reaction toward the composite picture of our mental processes at any given moment of which we are aware. (3) The Fringe of Awareness is the borderland which slopes into the Paraconscious and consists of the most immediately associated ideas which accompany and modify the conscious state and which may slip into clear consciousness with the least possible resistance. (4) The Paraconscious is that state in which ideas and images are beyond the field of awareness but which are not too difficultly recallable. If the ideas and images of the Paraconscious are dormant then we have a



Zone I

1. Focus of Attention
2. Conscious
3. Fringe of Awareness

Zone II Automatic Activity

4. Paraconscious { Dormant / Active

Zone III

5. Personal Unconscious
6. Genetic Unconscious

Schematic Representation of the Mental States

1. The states are arranged in the degree of intensity they possess in relation to the conscious state.
2. Each state beyond the conscious state has a greater radius, increased range and diminished intensity.
3. Zone II is the seat of automatic activity.
4. Zones I and II may act on each other reciprocally — there is a two-way traffic.
5. Zone III influences the zones of greater intensity, but is not influenced by them — there is a one-way traffic only.

state which was formerly described as the foreconscious and the subconscious; if the ideas and images are active and independent then we have a state which has been called the Co-conscious. (5) The *Personal Unconscious* is that state in which the records of the experiences of our lives are retained and conserved, no matter in what condition they were impressed; whether in normal consciousness, in the hypnotic state, in dissociated personality, or in hysterical crises. These complexes not only are not readily accessible and recallable but in part are actively excluded from consciousness by the resistances built up to keep them from reaching the field of awareness. However I cannot agree wholly with Freud's idea that the unconscious' mental processes are of such a character that they are wholly incompatible with the civilized conscious personality, because I feel there is a great deal in the unconscious that is in fact quite compatible. The unconscious may be the mental dumping ground, but not all that finds its way to the dump is refuse by any means. Ideas and experiences may get lost in the unconscious not only because they are forced into it and kept there by the direct utilization of energy, but also because once having reached there they may lose the necessary intensity which would enable them to reach the Conscious state; in other words they become inert. Put very simply the personal unconscious is the individual's mental lumber-room. (6) The Genetic unconscious constitutes the haziest part of the background, and is that state in which the instincts of the development are impressed. These instincts while influencing the individual's reaction are beyond any form of recall. It is thus seen that although the conscious, paraconscious and personal unconscious are capable of affecting each other reciprocally, the genetic unconscious while exerting an influence on the preceding states, can never be influenced by them because it represents the residual left in the wake of a development for which our present powers of interpretation are wholly inadequate.

It is in the Unconscious, then, that we must look for the fundamental traits which help to make up and modify the personality. Long says there are three aspects of the basis of character: (1) The unknown motives of the Unconscious; (2) The presence of psychic energy designated libido, and (3) the bisexual predisposition of every person. So much has been written on the subject of bisexuality of the individual by various investigators, that little need be repeated here. Of course it is known that all human beings are undifferentiated as to sex for some five weeks of prenatal life and as far as we know now, may become either male or female. At birth the child, whose sex organs are fully formed, is still psychologically undifferentiated and in maturity each sex does, under certain conditions show characteristics, which are supposed to belong to the other sex; in other words, there is present a mixture of the two tendencies. The most brilliant experimental work that has been done on the sex problem, is that of Goldschmidts which unfortunately has been too briefly reported in print. Of course the work was done with Lepidopteræ, but even so why may we not use these illustrations as valuable? He asks the question, are the two sexes clean cut, or are they nothing but limiting points of a series which might approach each other or even become interchanged, and then demonstrates that all types of intersexuals can be produced experimentally, many of them with predominating external signs of a given sex and even the instincts of that sex, but unable to reproduce and create, owing to the mixture of sex elements present in the sex gland. Freud says that the libido is of a masculine nature whether in the man or woman, and that normally there is present in every one a certain amount of anatomical and psychic hermaphroditism. Stekel tells us that all dreams and all sexual symbolisms are bisexual. Freud goes further and says that in no normal person does the normal sexual aim lack some designable perverse element and that the polymorphous perverse disposition exists in the universal human. Add now to this Stekel's assurance that we are all "Universal Kriminell" and that the criminal instinct is deeply rooted and slumbering in all mankind, and we see that with all this array of rascality lurking in our dim, vague, mental background we are all potentially *unsafe* and *unsane!*

It is easily understood that disorders in any one or several of the mental states may give rise to various pathological manifestations, but it is to an abnormality of the paraconscious with ramifications into the unconscious, resulting in a disintegration of the personality, that I wish to direct special attention. The things that happen to us are built up into systems of associated thoughts and any one occurrence may be related to many other systems, through associations, which will give an entirely different coloring to the original experience. These systems in turn are related to subsystems, each with a possibility of multiple associations and practically every idea is associated with a complicated and systematized organization of previous experiences. When we consider further that the ideas and images in the paraconscious may be reproduced intact as experienced, or that they may appear, after having combined with other systems and subsystems, as something utterly foreign, or that they may be completely and effectively placed beyond recognition through elaboration and symbolization, it is not remarkable that, if the paraconscious goes on a rampage, some curious phenomena may be observed.

In a normal mentally healthy person there is such a firm synthesis of the mental states that a certain stability of personality results. If for any reason this synthesis is weakened, there occurs a disintegration of the personality which, varying in intensity, finds expression in conditions ranging from simple forgetting, through neurasthenia, hysteria, to complete dissociation and multiple personality either of the alternating, or secondary type. Repression of unbearable or unwelcome ideas which may not be altogether successful at first, may later become so well fixed that the normal mental synthesis may be broken up into independently functioning parts or systems. The formation of secondary personalities involves two factors, namely dissociation and synthesis or resociation, and as a vast combination of resociations of the many systems and subsystems can take place, it is easy to see that theoretically, at least, any number of secondary personalities may arise which are characterized by some form of automatic activity. This weakened synthesis of mental states and automatism constitute a reversible reaction, for if the power to synthesize becomes lessened, the remaining repressed elements of past experiences are apt to take up automatic individuality, while the development of the automatism tends to produce further dissociation. Somnambulism, crystal gazing, the ouija board and automatic writing are all manifestation of dissociated ideas.

Automatic writing in its simplest form is script which the writer produces involuntarily and in some instances without being aware that he is doing it, even though he be in an alert waking state. Automatic writers may be divided into two classes: those who can write only while being consciously distracted and stimulated, and those who can write only while relaxed and with the attention fixed. These two groups may be further subdivided into subjects who at the moment of writing have no idea what the hand is recording and those who at the moment have ideas corresponding to the ones recorded, but which seem to flood the mind without volition and without logical association toward the normal mental processes. The writing is the manifestation of dissociated ideas of which the writer is not aware. Very frequently the subject has no idea what causes him to do the writing and he may be accredited with mediumistic possession, and supernatural powers so that he may even begin to believe that he has "psychic tendencies."

However the material produced by the person doing automatic writing is entirely endogenous. The subject matter presented generally comes from the paraconscious, though the fundamental traits found in the unconscious often exhibit themselves in some of the productions, masquerading as individual personalities. Some of these personalities — those of the secondary type — are concomitant with the original or primary personality and are fully aware of all that the waking or normal personality does, feels, and thinks, and so they have an enormous advantage over the poor normal who has not the faintest idea what any given secondary personality may be up to. These secondary personalities may make records which appear to be exact reproductions of the handwriting of persons who have died and it is this type of individual who is often unsuspectingly exploited by the professional and unscrupulous so-called "psychic."

These cases of apparently authentic communication in the handwriting of deceased individuals have been the inciting factor of numerous psychical research experiments. It is interesting to note in this connection that W. A. Melcher in his discussion on "Dual Personality in Handwriting" says that attempted voluntary changes in handwriting as for purposes of disguise would not produce any marked effects especially in those details which were not known to the writer, but in the case of dual or multiple personality it is different, for here the writing lacks the features of voluntary disguise and it is necessary to go beyond physical and pictorial details and search the writing for the involuntary and uncontrollable discriminating marks shown by the writer. The disinterested handwriting expert using all scientific methods available can determine correctly whether or not the writings are the records of two different individuals or the same one. In this way there is provided a physical means of proving that the writing is not that belonging to another person who supposedly has taken possession of the writer.

The surprising and unexpected variety of material produced by the subject is simply amazing. Latent talents of which the writer is in complete ignorance of possessing may be demonstrated, such as, writing poetry or stories; composing music; illustrating and designing. The writer may record lurid, criminal stories well worked out in detail though in the normal personality all traits of criminality and cruelty appear entirely lacking, thus suggesting the "Universal Kriminell" trend. Another writer may reveal personalities claiming to be delinquents and prostitutes, thus showing polymorphous perverse sexual instincts which would quite horrify the normal personality. The writer may fluently express ideas in a foreign language which he has forgotten he has ever heard. The subject may display a sudden facility for using the opposite hand or of using both together and may even produce two personalities simultaneously each making use of a different hand and each representing a different sex, thus showing a distinct bi-sexual trend.

The set of experiments reported by Downey and Anderson in 1915 showed conclusively that a person could read, write or calculate consciously and could produce records at the same time automatically from the paraconscious, thus showing that two streams of thought could take place at the same time. Prince through a reverse process demonstrated by means of a clever set of experiments that the active paraconscious could function simultaneously with the conscious and could even perceive and do elaborate computations correctly, totally independent of the conscious. The chief thing to bear in mind is the fact that not all the material produced automatically is necessarily symbolical and that much of it is merely an autographic record of ideas, images or experiences absolutely intact. The variety of material is almost limitless, but in the two cases I am discussing, both show distinctly a bisexual trend, while one beautifully illustrates the polymorphous perverse sexual, and the other the "Universal Kriminell."

PART II

The two subjects to be discussed both have the same first name and their life histories are quite similar though they do not even know of each other's existence. For the first of the two cases, I am very greatly indebted to Dr. Winifred Richmond who is a personal friend of the subject and who turned over to me her records and such information about the writer as was available. This case was reported by Dr. Richmond at one of Dr. G. Stanley Hall's seminars at Clark University in 1919 but was never published. The second case is that of a personal friend of my own and for this reason I am somewhat handicapped in presenting both history and a statement of the records as I have promised to withhold certain material.

1. Violet X—

Little can be told of the family history except that the parents were Scotch and that the father died at the age of sixty. The mother is a "chronic worrier." There are two younger sisters who are healthy and are not dominated by intellectual interests as is their sister.

Violet X— was born in New England and lived a normal healthy life as a child. She had excellent schooling, graduating from Wellesley. She had no illnesses and never considered herself nervous or hysterical. In college she had the usual courses in psychology but knew practically nothing about abnormal psychology. She had been specially interested in sociology and had done some social service work in Boston. She was a teacher of English and later married a professor of English in a middle-western town. She had a fine intellect and a charming personality.

Just previous to the time of her automatic activity she had worked very hard and had begun to feel run down. The physician she consulted told her she was overtired and had some slight cardiac disturbance. Aside from this condition of fatigue she appeared to be normal physically and mentally. One day when in this state of fatigue, it was discovered that the Ouija Board was working unusually well for Violet X— and Dr. Richmond was prompted to test her ability to write automatically. This started a series of records which were obtained during a period of several months. The first attempts were not so brilliantly successful, but with repeated attempts a marvelous facility for writing developed and with this an increased tendency to dissociate appeared which finally became so alarming that the experiments were abruptly terminated.

During the period of experimentation no less than seven distinct recurring personalities emerged, together with several minor ones. Each had a name and a handwriting more or less individual. Each spoke of herself or himself in the first person giving detailed answers to questions, coherent accounts of themselves and admonitions and advice to the experimenters. Half a dozen different personalities might come at one sitting, interrupting one another unceremoniously, and sometimes even rudely. The personalities, once established, would often appear when called, coming with the remark: "So and so is here, what do you want?" Miss Violet X— maintained the same attitude as the other experimenters questioning or replying to what the hand was writing. Any levity on the part of the subject or the others was apt to call forth scathing remarks from the secondary personalities. Miss X— with one exception retained her own personality and was fully aware of what was going on, although she by no means always knew what the hand was writing; but as will be seen, her behavior was different when the different personalities were asserting themselves. In the following account it must be remembered that they appeared at different times throughout the several months of the experiment and that often several came at one sitting; but they shall be taken up, one at a time.

The first of these personalities to appear and the one who appeared most frequently and had the most to say was Annie McGinnis. Annie immediately drew a portrait of herself and it was a very clever picture. (In her normal personality Miss X— could not draw at all). Annie's story as she told it at various intervals is the following. Annie was a poor girl who had fallen through no fault of her own, but had been led astray by a man who had promised her food and shelter and an easier life. After that she became a prostitute and finally died in giving birth to a child; she suffered greatly because of her sins and wandered aimlessly about until she found Miss X— with whom she took up her abode "because," as she said, " you are so good, I love to be with you." Annie true to type was coarse, rude, quick-tempered, resentful, reckless and passionate. Whenever she appeared she took charge in a whirlwind fashion and if she happened to be in a good humor, she was a great blarney. Whenever Annie appeared, Miss X— would be seized almost as though with a convulsion; her arm would stiffen and the fingers would grip the pencil tightly and write in a coarse, flowing hand; or her feet would pound on the floor while the arm would bang itself on the table with enough force to cause considerable pain. The pounding occurred, Annie said, when she thought of what men had done to her. Annie hated men with large capital letters and often after one of the male personalities had been recording she would obliterate all traces of these records by scribbling over the entire paper.

During Annie's appearance, Miss X— often was observed to have a peculiar expression on her face which grew more marked toward the latter part of the experiment. Her eyebrows were raised and she looked almost frightened. Sometimes she would grit her teeth and press her lips together firmly.

Mary Patterson was the next personality. Her handwriting was very much like Miss X—'s normal writing. She used the best English and in general was more like Miss X—'s primary personality than any of the others. She came quite seldom and when she did she was apt to be rather rudely ousted by some of the more aggressive ones. Mary declared she was Miss X—'s most familiar spirit.

Mary Minott was a third personality. She described herself as a Cosmopolitan and very talented. She hated Mary Patterson and called her a prig, full of puritanical notions. She would bitterly upbraid Miss X— for preferring Mary Patterson to her. She insisted that if Miss X— would only listen to her she would make her a famous designer, and to prove it she designed a number of beautiful dresses (Miss X— normally could not do this at all). Mary Minott had a perfect passion for designing gowns and she had talent that amounted almost to genius.

A fourth personality, persistent and always unwelcome to Miss X— was Alton. Unlike the others, he was no myth but a friend of her fiance, whom she had met the previous summer. He wrote the most sentimental things and seemed to try to dissuade her from marrying the man to whom she was engaged. Alton was always urging Miss X— to give herself up to mediumship saying that the spirits of both the dead and the living could speak through her. He admitted that it was sometimes dangerous but felt he could guard her from harm.

Miss X—'s father was the other personality who purported to be dead, as he actually was. This personality assumed the actual handwriting of her father. He did not appear often and then only made hurried remarks about family affairs.

A sixth interesting personality labeled himself simply "the Spirit of War and Desolation." This spirit sounded dreadful warnings (it was just prior to America's entry into the war) and urged Miss X— to work for the Red Cross. This personality alternately urged Miss X— to give up automatic writing and to take up the study of mediumship for which she was told she had rare talent.

The last personality to develop and the one who finally caused the disruption of the experiment, called himself merely "Man." In the beginning he was not at all distinct, neither with regard to handwriting nor to the content of what he wrote. At first he would break into some other conversation with totally irrelevant remarks and when questioned would give only ambiguous answers or none at all. Finally however he identified himself as man and would alternate with Alton, but he developed such an antipathy toward Alton that he succeeded in banishing him altogether. He also fostered an intense dislike for Annie McGinnis who hated him in return in letters two inches high. She considered him the incarnation of all her enemies. "Man" tried to banish her, but nothing could banish the flippant and irrepressible Annie and she took particular delight in scribbling all over the things he had written.

These two personalities now had the field pretty much to themselves and "Man" became more and more persistent and dominating. A change began to come over Miss X— when he was in control. She first mentioned it herself, saying: "I feel different when 'Man' is present than I do with any of the others; there is a feeling of power and vigor and I don't want to sit still, I want to run or express myself in some vigorous physical way." "Man" soon expressed an interest in dancing and would fill sheet after sheet with marks produced through rhythmic motion of the pencil, becoming more and more energetic as time went on. He would write occasionally — "Let's dance, Violet." Miss X— began to say she believed she really could dance spontaneously if she would give herself up entirely to the feelings, but she was always a little afraid to try.

Toward the end of the experiment some three months after it was begun, Miss X— was writing quietly one evening when "Man" came and as usual began to dance. In a moment Miss X— spoke loudly and said — "Oh — I want to dance — I believe I can dance" and getting to her feet she began to sway rhythmically back and forth. The swaying became more and more violent, her arms began to wave and her feet to execute a curious shuffling movement. Suddenly her body gave a violent wrench and she cried out in a sharp, high voice. Her face depicted the emotions of a tremendous struggle, ecstacy and terror contending for expression. She was taken to a couch by the experimenters, where for about ten minutes she remained stiff and moaned in an unnatural voice. Gradually she resumed her natural speaking voice, relaxed and returned to normal and though rather terrified by the experience, she was able to discuss what her feelings were. She said she tried to control the movements and suddenly realized she couldn't — it was as if something were making her do it and she couldn't stop. She declared she was in fear of losing herself and of another personality gaining control. She said: "I wanted to give myself up to it and yet I didn't want to. I can't describe it, but I felt as though I were two people."

After this experience, Miss X— was strongly dissuaded from trying anything more, but she did try it a few times and always "Man" came, telling her he represented all the vigor and love of action in her. He always wanted to dance. After this came her marriage and the automatic writing was largely forgotten for several months, but one day when she was alone she decided she would try it again. This time Mary Patterson, "the most familiar spirit" came and explained that all the other personalities were completely submerged and lacked sufficient intensity to be able to express themselves. After this no further attempts were made.

Miss Violet X— was tremendously interested in all the manifestations and introspected carefully and sincerely. She felt that none of them expressed things outside her own experience except Alton, who was a real person. However after repeated attempts at analysis, Miss X— recalled a conversation with her mother after her meeting with Alton which satisfactorily accounted for the genesis of his remarks, and after this explanation he gradually disappeared.

Miss X— felt that Annie McGinnis was entirely explicable. She had been strongly impressed in her experience in social work with the idea that only the accident of birth and training had saved her from such a life as that led by some of the girls of the lower economic classes. Annie was, in part, the systematized expression of ideas, once acutely conscious but largely relegated to the paraconscious where they continued active, and she was also the means of expressing the polymorphous perverse sexual tendencies of the personal unconscious. She further illustrated a distinctly compensatory trend for her expressions of hatred for men were probably the outcome of the ambivalent opposite emotional tendency.

"Man" undoubtedly represented the bisexual trend of the subject and came, if not wholly, at least to a great extent from the personal unconscious. His desire to dominate, as well as the assertive and very aggressive tendencies manifested, appear much more instinctively masculine in character than feminine. The power and vigor of expression as well as the greater freedom from repression in this personality seem to be evidence of the same phenomenon.

Case II — Violet Z.

The family history in this case is of considerable interest. The father's maternal grandmother who lived to be past a hundred had the ability to do automatic writing. The father himself of Scotch and Dutch ancestry has always been a very unpractical business man and though once in good financial circumstances, met with many reverses. His particular interest has been tracing the origin of religions and he has written a book on the subject. He has been so engrossed in his researches that he has paid too little attention to his children. The mother was of Welsh and English descent and was a lovable, sweet, dignified woman whom every one admired. She met her husband at college and they were married during their Senior year. She could do automatic writing and was thought to have the power to be a Spiritualist Medium. She however did not believe this, and told her husband, — who was then interested in spiritualism — that after she was "in spirit land" she would not communicate with him. She died when Violet Z— was eight years old. Mr. Z— feels that he has talked with his father and many dead friends, but *never* with his wife. Violet Z— has an older sister and brother, both very bright. The brother has always been erratic — has been an actor and a newspaper man. The sister did very well in school and was bright in college. She was witty, attractive and delightful. Up to her sophomore year Violet's sister was cook, housekeeper, mother, and chaperone all in one, as they had no maid. Toward the end of her second college year she began to suffer with thyroiditis and had to go to a hospital for many months, and the rôles of the sisters became reversed.

Violet Z— herself is now about 26 years old. She was a seven months baby. As stated above her mother died when she was eight and she remembers her mother as a very pretty lady who lived with them — not so much as a mother, although she was deeply attached to her. Violet Z—'s childhood was normal and she had good health. She dearly loved to play with dolls, but on the other hand she was a bit of a tom-boy too, for she enjoyed romping and playing out of doors and was frequently up to some sort of mischievous pranks. She started going to school at the age of six. In spite of her liveliness at home and among her intimate playmates, among strangers, she was quite shy and timid and made few friends. As a child Joan of Arc and Florence Nightingale were the two characters who most appealed to her. She was never so brilliant in high school as her sister and her shyness increased.

When she started to college she was absolutely ignorant of all sex matters, as she had received no instruction. The following summer, after having studied Biology for a term and still not understanding the reproductive functions, she had these phenomena explained to her while visiting a friend in the country. Her whole college course was shadowed by worrying about her sister who became ill. She had a great many additional responsibilities added to her usual ones and she began to lose her remarkable endurance. Whereas she had always been even tempered, happy and sunny in disposition, she now began to show slight signs of irritability and of being inclined to worry.

It was during her sophomore year that she met the man she eventually married. After her marriage her husband was unable to keep a position for more than a short time, and she had to help with their support by teaching. She had a miscarriage and was very ill. At present her husband is doing splendidly and they have bought a new home. A baby was born about six months ago and Violet Z— got along fairly well afterwards, though the child had to be taken with instruments.

She first began to do automatic writing her freshman year in college and started it simply because she knew her mother had written and thought she would try. She was delighted to discover she could do it and soon was entertaining her more intimate friends with her performances. She always preferred having the room quiet and always maintained a rather listless attitude toward the whole procedure. Her automatic activity differed from that of Violet X— in that it never produced a recurring personality and also in that it did not cease after her marriage, for the most remarkable record she accomplished was made just a few months ago.

The first of the stories and one that was written all in one evening concerned the phenomena attending the death of a person calling himself William Young. The working out of the plot covered sheets and sheets of foolscap paper and the tale was profusely and cleverly illustrated. (Violet Z— like Violet X— could not draw *at all* voluntarily). William Young was born in England over a hundred years ago (he was forty-five when he died and he said he had been dead over fifty-five years.) He lived in a small coast town which he said was called X— and he drew a map on which he located the place. This was verified in an atlas and it was further found that the map was very accurate. None of the group present has any conscious knowledge of ever having heard the name of the town before. William gave as his occupation, that of butler in a wealthy family. He drew a magnificent picture of himself in his livery. His brother, several years younger and not so successful as himself, was a carpenter by trade. Both he and his brother were in love with an attractive young woman who was a maid in the same residence where William was butler. She preferred William and they became engaged one early summer. This angered the brother and made him very resentful toward William but he attempted to mask his feelings and he made a picnic in honor of the engaged couple, inviting the members of the family and some intimate friends.

At this stage of the story several sheets of foolscap paper were covered with illustrations depicting the picnic grounds in a shady nook near a spring. The ground was covered with wild flowers. Great care was given to drawing the details of the lunch; the cloth spread on the ground, the cutlery, the baskets of food and ale were all portrayed, while special attention was directed to the seating arrangements and the places where he, his brother and the girl sat were carefully marked. The party proceeded hilariously for a time, but presently as William ate an onion his brother passed him, he suddenly appeared to strangle, and died most unexpectedly.

The merrymakers were utterly stunned over the tragedy and the young woman was quite wild with grief. Great perplexity prevailed when it was attempted to fix the cause of death, for William had always been strong and robust and was supposed to be in the best of health; but finally it was decided he must have had a weak heart of which no one had been aware and that he had really died of heart trouble.

At this point of the story, the writing became agitated and the words simply poured themselves on to the paper. William assured us that instead of dying from any normal cause, he had been foully murdered by his brother who was so intensely jealous of him that he decided to put him out of the way. He wrote over and over — "it was just one drop that he put in the onion that did it" — but what the drop of poison was William did not know.

His betrothed after a suitable period of grieving, married the wicked brother who contrary to all the laws of fairy tales, prospered and lived with his bride, happily ever after. William showed considerable emotional distress over the fact that the murder had never been discovered and that his criminal brother had never been brought to justice.

We tried by various methods to discover if Violet Z— had ever read or heard of such a tale, but she was unable by any means attempted to recall anything even faintly resembling it. However undoubtedly she had heard or more likely read of it; for the geographic details were so accurate that they could not have been fabrications.

The second story written on another occasion claimed to come from a Charles You. The beginning of this story was quite amusing, for as the hand commenced writing, some one asked, "Who is writing?" and the hand replied "*You.*" This naturally caused considerable mirth and about ten times in reply to the same question, the hand wrote, each time in larger script, more emphatically and apparently quite peevishly, "*You.*" Finally some one said: "Well, what is your other name?" and the reply this time was, "Charles You."

Charles You was a scientist in the employ of the German Government who had been sent to China to make an important geological survey in the interior. He was accompanied by an assistant and all went well for a while until one day they had a quarrel which ended in a bitter fight. The assistant who had about the same amount of strength, triumphed and left his adversary in a state of unconsciousness, taking with him important data which had been collected. You, however, had been injured during the fight, in his foot and was unable to move for some time after regaining consciousness. Owing to lack of proper medical attention an infection started in the foot which finally developed into a general septicæmia and which was the cause of his death.

The only illustration in this story was so remarkable that I feel inclined to describe it in detail. In discussing the foot injury and subsequent infection a most accurate picture was drawn of the bones of the human foot and leg — not a tarsal nor a metatarsal was omitted and they were placed in perfect juxtaposition. I happened to be studying anatomy at that time and consequently I was much impressed by the perfect correctness of the production. Violet Z— had studied zoology but the only occasion she had of seeing the bones of the foot was in the skeleton which adorned the biology laboratory and she never consciously paid any attention to it. The accurate image was impressed in the paraconscious however where it was stored for further use, even though the perception in its passage through had evoked no response in the conscious state. When Violet Z— was asked to make a *conscious* effort to draw what she had automatically done so perfectly, she was utterly unable to draw anything that in any way resembled that part of the skeletal anatomy.

The third story concerned an unnamed prisoner who had escaped from the penitentiary where he was serving a long sentence for having assaulted a man and who had traveled to the far north. He drew numerous maps in great detail and showed the desolate strip of land where he was isolated. He had reached his destination by means of a small water craft and had taken some provisions with him. He was soon caught in the freeze-up and had to build himself a small snow hut. Here he was existing, but he said he did not think he had enough provisions to last him until relief would come in late spring and he thought he would probably die of starvation and exposure. As in the case of William Young recourse was had to an atlas and again it was discovered that the map was accurate and that the place indicated was beyond the regions of habitation. This ability to draw maps is interesting for in her normal state of consciousness she has no interest in geography.

The next case was that of a person who was confined to an insane asylum through the misrepresentation of some relatives who took this means of getting control of the man's fortune. He had had a number of unusual experiences and had been the victim of some political plots and after he was in the hospital, the mere recital of the things that had really happened, caused him to be considered paranoid. The recital ended with a pitiful plea — "please help me, for I am sick physically and can't live long and if I stay here much longer I shall really go mad."

A number of interesting writings followed all dealing with some phase of criminality, such as embezzling, forging or larceny. These criminal productions were all made before Violet Z—'s marriage. As in the case of Violet X—, after marriage, she had so many duties and cares that the writing was neglected. However in January of this year I saw her again and as of old we decided to amuse ourselves with the automatic writing. Violet Z — sat at the table and made some incoherent records with her right hand. The facility for smooth production seemed to have been lost. At last becoming impatient, I put the pencil in her left hand and said, "let's see what that will do!" Almost immediately the left hand (which she ordinarily cannot use for writing) began to fly across the paper and the resulting records were perfectly coherent. Then I decided it would be fun to see what would happen if I put a pencil in each of her hands. There seemed to be a momentary quiver in each arm and then both hands began writing simultaneously, each hand recording a different message and each denoting a different sex. The left hand wrote in small characters and claimed to be representing a girl by the name of Aneta Glane who expressed admiration for Violet Z—. The right hand wrote in bold flourishing style under the name of Daniel Raun and was pompous and boastful. After some time the left hand wrote: "if you will help me I can write better," while *simultaneously* the right hand recorded "I would like to let you but I am stronger and I hinder." The last thing written was, "I want to be strong, but I am weaker" — with the left hand while the right hand pranced all over the page in huge letters saying, "Good, good — Good — GOOD!" This closed the set of experiments with Violet Z— for she was shortly after taken ill with influenza and I returned to Washington before she was well enough to attempt any more writing.

The criminal trend is so marked in these records that little comment should be needed and yet there is one remarkable feature that should be emphasized. In each story, the degree of the criminal phase decreases. The first tale deals with first degree murder — a cold, premeditated and deliberate deed which goes unavenged. The second deals with an indirect murder — the death resulting due to neglect of the adversary's condition after the fight. The third concerns a man who has escaped from prison where he is serving a long sentence for assaulting another and it shows him likely to pay the final penalty through retribution. The fourth case deals with criminal persecution and the others in lesser crimes of embezzling, forging and thieving. It is interesting to note that the criminal element finally disappeared and was absent in the last experiment.

In view of the history (the authority of the sister, the greater ability she displayed in school, her popularity and lastly the illness which threw the responsibility on Violet Z—), the parallel incidence in the stories of William Young and Charles You of the subservient character eliminating the dominating personality is quite significant. Consciously she was aware of no resentment toward the sister and would have been annoyed had such a feeling been ascribed to her, but the paraconscious did protest and the automatic activity gave vent to her disapproval. The expression of Aneta Glane's commendation of Violet Z— as well as Annie McGinnis' approval of Violet X— suggests a narcissistic trend.

The bisexual element in Violet Z—'s case shows up especially well in the last set of records. Here we have both sexes striving for dominance, the left side illustrating the female and the right hand the more energetic and vigorous male characteristics.

PART III

In *Part I* a number of facts were discussed which appeared pertinent to a study of these cases of automatic writing. In *Part II*, the cases themselves were presented and the more important phases were emphasized. An attempt will now be made to briefly summarize the points which have been illustrated.

1. Automatic activity and dissociation constitute a reversible reaction. The greater the tendency to automatism the greater the danger of dissociation. Violet X— as she attained her greatest proficiency in writing also came very near to having a complete cleavage of the personality. This was when "Man" insisted she should dance.

2. The Paraconscious is the chief abode of automatic activity and may consist of dominant and active states, the latter of which are apt to produce personalities which are concomitant with the original personality. Mary Patterson knew all about Violet X— and what she thought and did — on the other hand, Violet X— knew nothing of what Mary Patterson thought. Annie McGinnis also knew what Violet X— thought and also what the two personalities "Man" and Mary Patterson thought.

3. The Personal Unconscious besides being the zone where the impressions of the most deeply repressed and lost experiences are left, also contains the elemental instincts of the personality and may so color the paraconscious activity as to suggest many unusual trends.

4. The two cases are of interest in that they illustrate on the one hand Stekel's theory that we have universal criminal impulses and on the other hand Freud's theory that we all have polymorphous perverse sexual tendencies, and that both show the bisexual disposition of the individual.

5. These cases further confirm Prince's experiments that the Paraconscious may act on its perceptions and function independently of the conscious. The drawing in the story of Charles You, of the skeleton of the foot is one of the corroborative pieces of evidence of this principle.

There are two questions which have suggested themselves during the preparation of this paper, but the scope of this article is too limited to allow of more than a brief statement of them. The first is a problem for the neuro-physiologist and concerns itself with habit formation. The last record discussed showed a hand that had not been accustomed to writing, suddenly exhibiting this activity independent of the simultaneous writing of the other hand. The neuro-muscular apparatus which controls this is apparently all connected — and an energy of some kind functions it, but of what character is it? Is it merely an overflow phenomenon or is it an independently functioning phenomenon?

The second question is one for which the psychiatrist will have to find the answer. If it is seen that a certain tendency to dissociation in a given person exists and that in the secondary personality developed there is a suggestion of latent abilities and talents — would it not be worth while to deliberately break up the synthesis of the mental states and resynthesize the subject into a more culturally successful and economically efficient individual by means of either hypnotism or analysis, or both combined.

In conclusion I should like to state that in view of the evidence offered, I believe I am justified in assuming that automatic writing is an indicator of the fundamental factors underlying the personality and that it may be considered an especially valuable instrument in the study of mental disturbances of psycho-genic origin, to reveal the predominating elements of the patient's mental make-up.

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PSYCHOPATHIC PERSONALITY

REPORT OF A CASE[1]

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IN any psychopathic clinic, patients presenting a bewildering array of psychoses, neuroses, episodic emotional states and various delinquencies pass in review. These are roughly classified into groups on the descriptive level, and here and there some interpretations of the mental mechanisms involved in individual cases are accomplished.

The attention of the psychiatrist is constantly drawn to the "constitutional make-up" of these people which antedates and underlies the more acute manifestations which bring them to the hospital. In this field there is vagueness and obscurity. Constitutional and environmental factors dovetail in a manner to render their respective valuation difficult or impossible. At the same time it must be true that in mental disorders, clinical pictures which on the surface are similar, can only be accurately compared if the unknown quantity of constitutional make up; the original germ stuff and human spirit of which the individual is composed, be given due consideration. Opportunity is infrequent for study to be made of types of personality not obscured by mental illness nor modified by emotional or social situations.

The following case was under observation for several months following recovery from a major hysterical attack. The history showed freedom from unusual environmental stress; and neither delinquencies in the ordinary sense of the term, nor special emotional instability had been evidenced. At the same time the defects of personality resulted in such difficulties of social adaptation that an extensive period of custodial care appeared necessary. Here seemed an opportunity to study a special type of constitutional make-up not obscured by symptoms due to environmental influence or exogenous disorder.

The patient, Violet, age 19, was admitted to the Boston Psychopathic Hospital May 4, 1921, with a history of being bedridden for two months without apparent physical cause, and of having exacted such constant service from a solicitous mother and grandmother as to make home care impracticable. The condition was precipitated by a mild attack of bronchitis, from which she appeared to recover; after which she went back to work only to return home suddenly in a panic over her physical state, and take to her bed again. Within a period of two years there had been two previous attacks duplicating in every essential feature the one present on admission.

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[1] This case was presented before the Boston Society of Neurology and Psychiatry, November 17, 1921.

Her physical condition on entrance to the Hospital was one of complete motor inactivity, with inability to speak above a whisper. The mental picture was one of plaintive, fretful hypochondria, with a generalized projection of morbid interest on to many internal organs and body regions. Physical examination showed a tall, slender but well nourished girl with abundant flaxen hair and very fair complexion, her natural pallor exaggerated by confinement. Secondary sex characteristics were normal. There were some minor symptoms of vasomotor instability and a rather rapid heart rate; otherwise no abnormalities were noted. All laboratory examinations were negative. None of the ordinary stigmata of hysteria were elicited. Mentally she showed a rather querulous, complaining attitude with moderate apprehensiveness, in part determined by her new and strange environment. She was at all times clear and oriented and neither evidenced then or at any other time psychotic symptoms. In spite of her listlessness and apparent weakness, she showed no special fatigue from interviews, and maintained the reality of her invalidism with considerable spirit when any attempt was made to suggest its mental origin.

From May 4 to June 28 Violet's condition changed but little. She was for the most part completely inert, hardly crooking a finger unaided; fed, turned and tended in every way as a helpless babe. If lifted into a chair she would slide to the floor like a bundle of old rags. This picture was a few times momentarily interrupted by sudden activity as when she seized and clung to her mother's arm as the latter started to leave after a visit. All routine methods of treatment and management seemed without avail to modify in any way her clinical state. Toward the end of June hydrotherapy was instituted and at the same time an active course of persuasive and suggestive psychotherapy carried on. In two weeks she was completely well, the transition being gradual over that period. She first began to feed herself and help the nurse when turned in bed. Soon she was in a wheel chair, later walked stiffly supported by furniture and walls, and then suddenly one day began to dance and gave evidence from then on of complete muscular control.

July 12 marked the end of the hysterical state and also the beginning of a period of disagreeable activity and a type of conduct probably best characterized as malicious mischief, which persisted till her transfer to another hospital; it has there continued, and according to all outside evidence, is quite characteristic of her previous behavior at home. So far as general management of this girl was concerned, her earlier paralyzed state offered some advantages over the normal one. From the time of her recovery an unbroken stream of complaints from others poured in to the physician in charge. Nurses, occupational aids, social service representatives, patients, patients' relatives and hospital employees all expressed their tale of grievance. On August 1 she was sent to a convalescent home as a desirable change en route to normal living. In three days the officials asked to return her to the hospital, but were persuaded to make further trial. In two weeks they returned her without asking, saying she was into everything that did not concern her, teased other patients, was impertinent and "impossible."

Her condition during her stay in the Hospital after that time changed but little. Physically, she appeared consistently in robust health. She showed no neurotic interest in her own body, and on occasion of minor ailments such as a coryza, no hypochondrical tendencies developed. A few times, after some slightly upsetting event, she remained for a day in bed with no other explanation than that of being tired, and her general limpness on such occasions hinted at an easy recurrence of inertia in face of serious difficulties. She was always neat and well dressed, was good looking, well built, graceful and attractive in appearance.

She showed uninterrupted psychomotor activity of a special type; she was boisterous, impudent and interfering; she teased and tormented other patients, picked out their weaknesses and found sore points as targets for her wit and ridicule. In general she seemed to possess a diabolical power to upset others often in a way that attached more blame to them than to herself, although on the whole she was not sly nor deceitful. This activity was, for the most part, nonselective; it appeared to make little difference to her toward whom she directed her shafts. She was never obscene, nor really profane nor vulgar, although she would employ at times a little coarseness for the special purpose of upsetting some refined and placid fellow patient.

Literally she could travel the length of a ward, leaving in her wake a trail of lamentation and woe. Her motor activity was manifested spasmodically in such pranks as running over and under beds, climbing on top of closets, unscrewing lamp bulbs, etc. She acquired the art of mimicking various animals and usually crowed lustily out of the window in rooster-like fashion in the early morning hours. All this of course suggested a hypomanic state, but it never went beyond what would be wholly in order at a lively week-end house party, though quite inappropriate in a hospital ward. She often went out on parole with her mother to the shopping district or the theatre, and conducted herself becomingly. As an extreme example of her depredations may be noted a two-day period which at one time preceded her temporary removal to another ward. During that time one patient was in tears because Violet had told her some test performed the day before meant she had syphilis; another was deeply agitated over the transfer to a state hospital which Violet had predicted for her; a third asked medicine for headache caused by having her head bumped against the wall; another was in bed because she had been kicked in the side; and still another showed marks on her arm where Violet had bitten her. Yet with all this, patients did not necessarily dislike her, and several expressed regret when she was transferred to other wards.

Her mood was, on the whole, elevated but was apt to be irritable and harsh with loud laughter and ironical witticisms. Mixed with this almost continuous activity were occasional short periods of quiet and brooding but never any real depression. She never showed deep anger and seemed to bear no profound malice against anybody. In the minor physical encounters with other patients into which her meddlesome activity led her, she was apt to get the worst of the bargain but bore no resentment. Her interests, such as they were, seemed wholly objective with no evidence of introversion or phantasy life. Her attitude toward the hospital was at all times mildly hostile and critical, and she seldom showed the slightest gratitude for any service rendered or efforts in her behalf. She gave the impression of feeling that the whole matter was the hospital's affair and not hers, and that it was incumbent on it to provide for her future. Although constantly asking how much longer she was to be detained, she took little initiative toward getting her discharge and offered only vague plans, poorly thought out, for her future.

Her relations with the physicians of the staff were at all times friendly, but marked by shallowness of affect on her part, without evidence of deep feeling of any character. She never courted nor avoided special interviews, and it seemed impossible by any sort of tactful approach to establish cordial relationships on the one hand, or, on the other, to arouse hostility or resentment by plain talk and frank criticism. She might sulk a little, while listening to a discourse on her faults, but assumed her old manner as soon as the subject was changed. Left to herself, she prattled on concerning vague philosophies of life, interposing some humorous and sarcastic comment on ward routine, complaints about other patients and trivial personalities in general. She never showed the slightest remorse or feeling of blame, nor did she, on the other hand, display vanities or exaggerated self-esteem. Adverse criticism slid easily from her shoulders, or she adroitly shifted responsibilities on to somebody else, most often her mother and grandmother. Toward them or others of her family and acquaintances she showed but little affection or consideration.

On sex matters she talked frankly, although she never brought up the subject. She evidently had wholesome instruction from her mother and no facts were elicited at any time to show special conflict or abnormal interest. Sexual experience and autoeroticism were denied. The most significant thing brought out by discussion of this topic was her impersonal attitude. She talked in a loud voice without regard to being overheard and, in a way, causing more embarrassment to the interviewer than to herself. She propounded various generalities, dealing with double moral standard, duties of a wife, obligations of motherhood, venereal disease, etc., in a manner showing interest but as though dealing with a detached problem such as philosophy or politics rather than something quite vitally personal.

The family history of this girl is bad; on both sides there have been insanity and eccentricity. Her father died by accident when she was eight years old. He is said to have spent many months in bed at the age of sixteen without any apparent cause other than that he had "grown too fast." Her mother is an estimable woman who has been self supporting as telephone operator since the death of her husband, but is nervous and peculiar, and lacks stamina. She cannot stick to a point in conversation, has little decision, and shows gross defect in capacity for logical thought. For many years she has leaned heavily for moral support on the social service department of one of the large churches. A maternal grandmother, whom the patient is said to resemble in appearance and disposition, was noted for her eccentricities. One of her customs was to sit behind closed blinds on Sunday morning and make uncomplimentary remarks about her fellow townspeople as they passed on their way to church. A number of the maternal aunts are Christian Scientists. Analytical study of family relationships and early influences has been difficult owing to lack of serious co-operation on the part of the patient and the poorly balanced history available from outside sources. The father traveled, and had little contact with his daughter for that reason. A younger sister died when patient was six years old and nothing significant is evident in their relationship. From the time the patient was eight years old she was under the immediate care of her grandmother on account of the necessity for the mother to work, and there was often difference of opinion between the two adults upon matters of management. During her early life Violet was quite affectionate toward her mother and had been known at times, in the latter's absence, to kiss her dress hanging in the closet. As she grew older she became less demonstrative and gradually quite indifferent and cold, although she never showed real animosity. A number of different aunts have entertained the patient and two have had her in their homes during the first part of her previous hysterical illnesses. All have now washed their hands of her and refuse to permit further visits.

As a child she was physically well and showed no special neurotic traits. From seven to twelve she had frequent night terrors, in part apparently the result of an unpleasant experience with an old man in a neighboring house who made some sexual advance to her. She was quite upset and frightened temporarily over this, but discussed it freely at a later date with her mother and apparently suffered no lasting ill effect. During her early teens she had a number of seizures quite evidently of a hysterical type. From early years she had shown disagreeable traits of personality; as a young child she was pert, bossy, contradictory and bold. She could never get along well with other children, but has one life-long friend, a girl two years younger, whom she frequently meets and who seems fond of her.

At twelve years of age the patrolman on the beat was enlisted to keep her from wandering into the neighbors' homes, where she would be insolent when told to leave. About the same time a local physician complained that she had tormented his children left sitting in his automobile while he made a call. She was interested in animals but was rather cruel in a special teasing way, such as enjoying watching the distress of a kitten put on a high mantel where it dared not jump down. She did well enough in school so far as studies were concerned and left during her second year of high school on account of a minor illness. She was, however, in constant trouble with her mates and complaints of her "unfortunate disposition" came frequently from her teachers. For one of them only did she show any fondness. Concerning the latter, she once said to her mother, "Miss Brown is so nice you never want to tease her." She was critical of nearly everybody with whom she came in contact and always took pleasure in harsh ridicule of their peculiarities. Admiration, envy, jealousy or extreme dislike were seldom in direct evidence. She never was truthful and instances are at hand of her stubborn adherence to falsehoods in face of direct proof to the contrary. She has showed at all times considerable artistic interest and some ability, particularly in dancing, dramatics and the various handicrafts. She is described as being always busy and on the go, and a great talker. Her mother spoke of this as "jabbering" and told of her constantly asking questions, when there was nothing else to talk about, concerning things to which she knew the answer perfectly. In recreation her tastes have run to noisy, frolicking times with jazz music, dancing and loud laughter. She manifested rather less interest in men than the average girl and, although she received some transient attention, has never been popular, always preferred group activities and showed little tendency to "pairing off" or flirtation. Her disposition complicated family living arrangements at all times and twice landladies have requested in no uncertain terms that other quarters be obtained. An ultimatum was issued by the owner of their present home that if Violet returned they must move again.

Her working career since she left school at sixteen has been interrupted by her various illnesses, and has also been accompanied by maladjustments similar to those in other phases of her home and social life. She had a number of minor clerical positions, usually leaving suddenly for some trivial reason such as poor ventilation, too much eye work, stair climbing, etc. In each place she stayed long enough to stir up trouble among her fellow workers. Her most permanent position was just previous to the last breakdown when she was for four months in a private office where her employer only came in twice daily to look over the mail and there were no other employees. Here she gave satisfactory service but at the end left so precipitately as seriously to inconvenience the business routine.

At one time when there was a demand for tall blondes in the chorus of a musical comedy she obtained a position, and was about to sign a contract to go to the Pacific Coast, when her mother interfered. Her attempt to go on the stage seemed connected with her interest in dancing and in no way motived by the glamour and romance of the life. She seemed in many ways relieved to have her mother intervene, although for a long time she complained of such interference as a blow to a possible career. She never was in bad company and made no other attempt to branch out for herself in such radical fashion. She showed no consistent plan or purpose for her future life, always approaching the subject flippantly.

The patient's first breakdown of a nature similar to the recent one occurred in the fall of 1918, and was in every way a duplicate; the helplessness developing after an attack of influenza. She was at a private sanitarium from December 5, 1918, to March 12, 1919, recovered completely, and proved to be a disturbing factor among other patients in the later stage of her convalescence. The second attack came on after a tonsilectomy in July, 1919, which left her weak, listless and complaining, until finally she could not be induced to get out of bed. She was again at the sanitarium during September and October. On her return home she had a mild relapse with recurrence of some of the old symptoms. Her family persuaded her to try Christian Science, rather against her will as she preferred to return to the sanitarium. Somnambulistic phenomena developed for the first time during this period, resulted in her gaining her point, and gave strong evidence of having been deliberately simulated. These episodes had a morbid dramatic quality when Violet would start on a tour of the house, rushing up one flight of stairs and down another, with members of the family in frantic and breathless pursuit. On one occasion she ran to the street in her night clothing. She was sent back to the sanitarium for a short period and the somnambulism gradually disappeared and has never returned. For a few nights on first going back she roamed the hospital after barricades, which had been placed before her door to warn the nurses, had been adroitly and silently removed.

Observation and study of this girl over a considerable period resulted in arriving at the following conclusions concerning her; these are mainly on the descriptive level as no deep analytical study was possible, and are advanced as impressions, speculative rather than final, in character.

1. She showed a marked lack of those gentler qualities of the human personality, such as kindness, sympathy, pity, thoughtfulness

and unselfishness; partly a defect in the altruistic sense, and partly the absence of some of the higher psychic components of more personal love.

2. Approaching the latter subject from a psycho-biological standpoint, there was a certain sexlessness about this attractive girl which seemed clearly demonstrable. It was shown by observation and the history of her attitude toward men; by her manner of approach to the general topic of sex in formal interviews; and most of all by the impression she made on those in daily contact with her. There was a striking lack of ordinary feminine charm and appeal and a statue-like coldness, present even during most friendly and merry moods, a lack not easy to describe but plainly to be felt. It would be difficult to imagine, for example, even the most accomplished Lothario successfully drawing her into a flirtation or being able to keep a sustained interest in the pursuit. The spark of womanliness within her, whether good, bad or indifferent seemed to glow but feebly. If we view the reproductive function in its broader sense all these things may be looked upon as defects in that sphere.

3. There was also missing in this patient the ordinary pride, and sensitiveness to criticism; with absence of embarrassment and feeling of humiliation, in the face of ignominious situations. Without open defiance there appeared to be present complete disregard for the opinion of others. In these qualities may be noted a lack in the operating forces of the herd instinct, at least that part of it comprised in the tendency to be like one's fellows.

4. On the positive side of the picture we note this girl expressing herself, and gaining her major satisfaction from disagreeable activity directed toward others, and this of a teasing, tormenting, generally unkind order. Innumerable detailed examples might be given as illustrations. The extent of these traits makes it fair to see in them evidences of refined or psychic sadism, implying some sort of abnormality in psycho-sexual development.

5. All of the above qualities, of course, give poor equipment for adaptation to normal life. The acute hysterical states may be considered as reactions of a primitive order in the face of difficulties, a reaction familiar in benign stupors, and having its prototype in the behavior of some of the lower animals, which assume immobility in the face of danger.

If in order to carry out the scheme of the instincts we are at liberty to look upon these latter phenomena as defects in the self preservative field, we can conclude that this patient presented demonstrable personality defects in the combined spheres of sex, herd and self.

It is hard to view the outcome of this case in other than a pessimistic light. To modify the course by personal influence in the direction of psychological reconstruction seemed out of the question. One can only hope that under institutional environment tardy personality development may spontaneously take place and fit the girl for a better degree of social adaptation.

ANALYZING A FREUDIAN ANALYSIS

BY S. A. TANNENBAUM, M. D.

ONE of the most dramatic and artistic analyses of a lapse of memory, one frequently referred to by psycho-analysts as a convincing demonstration of the truth of the psychoanalytic theories, is Professor Freud's analysis of the forgetting of the insignificant word "aliquis" in a line from Virgil's *Æneid.* That the reader may be able to follow our argument, we reproduce Professor Freud's analysis (*The Psychopathology of Everyday Life*, pp. 17–22) *in extenso:*

Last summer, while journeying on my vacation, I renewed the acquaintance of a young man of academic education, who, as I soon noticed, *was acquainted with some of my psychological writings*. In our conversation we drifted — *I no longer remember how* — to the subject of the social position of the race to which we both belong. He, *being ambitious*, bemoaned the fact that his generation, as he expressed it, was destined to grow to waste, that it was prevented from developing its talents and gratifying its desires. He concluded his passionate speech with the familiar verse from Virgil: "Exoriare . . . " in which the unhappy Dido leaves her vengeance upon Æneas *to posterity*. Instead of "concluded," I should have said, "wished to conclude," for he could not finish the quotation, and *attempted to conceal the obvious gap* in his memory by *transposing the words:*

"Exoriar(e) ex nostris ossibus ultor!"

Finally, somewhat resentfully, he said: "Please don't make such *a mocking face*, as if you were gloating over my embarrassment, but help me rather. There is something missing in this verse. How does the complete line really go?"

"With pleasure," I answered, and cited it correctly, thus:

"Exoriar(e) aliquis nostris ex ossibus ultor!"

"How stupid to forget such a word!" he said. "By the way, I understand you claim that *forgetting is not without its reasons:* [Italics ours throughout.] I should be very curious to find out how I came to forget this indefinite pronoun 'aliquis.' "

I gladly accepted the challenge, as *I hoped to get an addition to my collection*, and said, "We can easily do this, but I must ask you to tell me frankly and without any criticism everything that occurs to your mind after you focus your attention, *without any definite purpose*, on the forgotten word."

"Very well; the ridiculous thought comes to me to divide the word in the following way: 'a' and 'liquis.' "

What does that mean?

"I don't know."

What else does that recall to you?

"My mind goes on to 'reliques' — 'liquidation' — 'fluidity' — 'fluid.' — Does that tell you anything?"

No, not by far! But continue!

"I now think," he said, laughing sarcastically, "of Simon of Trent, whose relics I saw two years ago in a church in Trent. I am thinking of the old accusation of blood-guilt which is now again being brought against *the Jews*, and of the writings of Kleinpaul, who sees in these alleged sacrifices reincarnations or revivals, so to speak, of *the Savior*."

This stream of thoughts is not unrelated to the theme which we were discussing before the Latin word escaped you.

"Right. I now think of an article in an Italian journal which I read recently. I believe it was entitled: 'What St. Augustine says about Women.' What do you make of this?"

I say nothing.

"Now I think of something which surely has no connection with our theme."

Please refrain from all criticism, and —

"Oh, I know! I recall a handsome old gentleman whom I met on my journey last week. He was a genuine '*original*.' He looks like a big bird of prey. His name, if you care to know, is Benedict."

Well, at least *you give a grouping of saints and Church fathers:* 'St. Simon,' 'St. Augustine,' and '*St. Benedict*.' I believe that there was a *Church father named* 'Origines.' Three of these, moreover, are Christian names, like 'Paul' in the name 'Kleinpaul.'

"*Now I think of* '*St. Januarius*' and his blood miracle — I find that these thoughts go on mechanically."

Just stop a moment; both 'St. Januarius' and 'St. Augustine' *have something to do with the calendar*. Will you *recall to me the blood miracle?*

"Surely you know all about it! The blood of St. Januarius is preserved in a phial in a church in Naples, and on a certain holiday it liquefies by virtue of a miracle. The people make much of this miracle, and become greatly stirred up if it is retarded, as happened once during the French occupation. Thereupon the General in command — or am I mistaken, was it Garibaldi? — took the priest aside, and, pointing, significantly to the soldiers arraye without, expressed the hope that the miracle would very soon transpire. And it actually took place . . ."

Well, and what else? Why do you hesitate?

"Something has just occurred to me . . . but it is too intimate a matter to impart . . . besides, I see no connection and no necessity for telling it."

I will take care of the connection. Of course I cannot compel you to reveal what is disagreeable to you, but then you should not have asked me to tell you how you forgot the word 'aliquis.'

"Really? Do you think so? Well, I suddenly thought of a lady from whom *I could easily get a message that would be very unpleasant to us both.*"

That she missed her period?

"How can you guess that?"

That is no longer difficult. You prepared me for it sufficiently. Just think of the saints of the calendar, the liquefaction of the blood on a certain day, of the commotion if the event does not take place, and the distinct threat that the miracle must take place. . . . Indeed, you have elaborated the miracle of St. Januarius into a clever allusion to the woman's courses.

"It was surely without my knowledge. And do you really believe that my inability to reproduce the little word 'aliquis' was due to this anxious expectation?"

That seems to me beyond doubt. Don't you recall dividing it into 'a-liquis' and the associations: 'reliques,' 'liquidation,' 'fluid'? Shall I also add to this connection the fact that St. Simon, to whom you got by way of the reliques, *was sacrificed as a child?*

"Please stop. I hope you do not take these thoughts — *if I really entertained them* — seriously. I will, however, confess to you that the lady is Italian, and that I visited Naples in her company. But may not all this be coincidence?"

I must leave to your own judgment whether you can explain all these connections through the assumption of coincidence. But I assure you that *every similar case that you will analyse will lead you to just such remarkable 'coincidences'!*

The way the forgetting occurred must be construed thus: The speaker had deplored the fact that the present generation of his race is being deprived of its rights, and, like Dido, he had predicted that a new generation would take upon itself vengeance against the oppressors. So, then, *he has expressed a wish for posterity.* At that moment a *contradictory thought intruded itself;* 'Do you really earnestly wish for posterity? That is not true. In what a predicament you would be if you were now to receive information that you may expect posterity from a certain quarter *which you have in mind!* No, no posterity, — no matter how much it may be needed for vengeance.' This contradiction asserts itself . . . by establishing an extrinsic association between one of the elements of his idea and one of the elements of the objectionable wish, [which is] brought about in an extremely strained manner by an apparently artificial detour of associations. . . . We have [here] a second mechanism of forgetting, viz.: the disturbance of thought through an inner contradiction emanating from the repression.

Professor Freud undoubtedly intended the above analysis as a scientific demonstration of the principle enunciated by him in the concluding sentence. We are therefore warranted in submitting it to a criticism in the manner characteristic of exact science.

1. In the first place, then, it must be pointed out that Professor Freud's account of the analysis is inadequate from a scientific point of view because the experiment, if we regard it as such, was not taken down immediately and verbatim by an impartial and unprejudiced stenographer. We are therefore in no position to judge how much Professor Freud suggested to the subject and what fine nuances in the subject's words he overlooked or ignored. In a psychological experiment of this nature the slightest gesture, a peculiar intonation of the voice, a wrinkling of the forehead, a look, etc., may be of significance. Errors of commission and omission are altogether too frequent in such experiments. As Professor Freud's report stands now it has no more value than hearsay or anecdotal evidence and that is little enough in science.

2. The subject, a young man with academic education, was acquainted with Freud's theories as to forgetting and was therefore not a fit subject for an impartial, unprejudiced investigation, no matter how honest he may have intended to be. Professor Freud encouraged the young man to associate under the impression that if he continued long enough they would discover *the* cause for — i. e. the meaning of — the forgetting. This is out and out suggestion. Professor Freud should have reminded the gentleman that there are, as he himself says elsewhere, other causes for forgetting besides repression. His failure to do this is a serious defect in his experiment.

3. We are told absolutely nothing about what the young man's thoughts had been prior to the discussion in which the forgetting occurred. Had he thought of the young Italian woman that morning? When had he last heard from her? Was there more reason for worrying about her menses now than previous months? Had he ever given her menses any thought? Many questions along this line occur to us, but the reader will supply these for himself. Their significance is obvious. If the woman's menses had not engaged his (conscious) attention whatsoever we cannot accept the theory that the forgetting of the word "aliquis" was "determined" by that, unless we are given more logical proof than that offered us by Professor Freud.

4. Nothing is told us about how much English the young academician knew, or whether he was in the habit of seeing English words in foreign words, whether he thought in English, and whether he usually thought of blood as a liquid (instead of a fluid).

5. It would have been of the utmost importance for us to know whether the young man knew the exact meaning of the verse in question or whether he knew it only vaguely. It so happens that this verse ("Exoriare aliquis nostris ex ossibus ultor," — *Æneid*, Book IV, 625) is capable of two interpretations, one being a prayer for the coming of an unknown avenger ("May an avenger issue from our ashes!") and the other an address to an avenger ("Arise from our ashes, thou avenger!"). In the former the word "aliquis" is practically equivalent to "ignotus" *i. e.*, unknown, whereas in the latter it has the force of "some one" who is fully known. If the young man's ideas about the exact meaning of the sentence were vague we would have a sufficient explanation for his inability to recall the adjective or pronoun that should modify the substantive "ultor." That this was really the case seems to be proved by the fact that he forgot this adjective rather than some other part of the verse.

6. The experiment might have been of real value to psychology if Professor Freud had not committed the fatal blunder of supplying the missing word. Had he not done so it would have been interesting to see whether the young man's associations would have brought him to the forgotten word and what his associations would have been. As it was, Professor Freud is open to the charge of having directed the young man's attention in the direction of something which may already have been consciously occupying his mind.

7. It was an error on Professor Freud's part to ask, "What else does it recall to you?" when the young man had as yet recalled nothing. And it is a serious error on Professor Freud's part to assume that the transposition of the words represents an "attempt to conceal the obvious gap" in the gentleman's memory.

8. An even more serious error — and one fatal to the scientific character of the experiment — is Professor Freud's telling the young man that he had brought together a group of saints and church fathers, especially as he had mentioned only two. There is no reason for connecting the word "original" with Origines, and there is nothing to show that the young man knew of the existence of Origines or that Origines was a church father. Furthermore, the young man did not mention "*St*. Benedict"; he had spoken only of a man named "Benedict." Had Professor Freud asked him to associate to "Benedict" or to the "original," the subsequent associations would in all likelihood have been very different from what they were. So, too, Professor Freud might have asked the young gentleman to associate to

"St. Simon," to "Kleinpaul," to "Benedict," to "bird of prey," or to the false charges against the Jews, or to the article about women, and in each case the subsequent associations might — nay, would — have been very different. His not doing so proves the thoroughly arbitrary and accidental character of the whole procedure. It was only after Professor Freud's lead that the young man said, "Now I think of St. Januarius and his blood miracle." In a properly conducted scientific experiment the investigator should have asked nothing, made no comments, but should have allowed the subject to continue to associate without guidance or interruption. It must be noted that up to the point where Professor Freud speaks of the grouping of saints the young man had said nothing that might be construed as an allusion to what follows.

9. That Professor Freud actually directed the young man's mind to the subject of sex and the sexual function is proved by the fact that it was he, and not the young man, who first spoke of the calendar and connected these with the "blood miracle," thus suggesting "monthlies, menses." No sooner had the young man mentioned "St. Januarius" and the "blood miracle" than Professor Freud hastened to refer back to "St. Augustine" and to suggest that these had "something to do with the calendar." And he followed this suggestion up with a question concerning the blood miracle, thus getting the young man to concentrate on blood. Professor Freud no doubt knows — and took advantage of his knowledge — that there are many young men, journeying on their vacations, who "could" get news from somewhere that a certain person is worried about her menses. It may be of significance in this connection that when Professor Freud supplied the missing word he "made a mocking face." (Think of a scientist beginning an experiment with "a mocking face"!)

10. In his discussion of the forgetting of the word "aliquis," Professor Freud tells us that "the usual way of bringing to consciousness hidden ideas" is for the subject 'to tell frankly and without any criticism everything that occurs to his mind after he has focused his attention, *without any definite purpose*, on the forgotten word.' One has only to read the reported analysis to see that the actual procedure does not in the least correspond to this description. The young man began his free associations with a very definite purpose: to discover the cause of the lapse in something of a repressed and tabooed nature. Professor Freud did everything in his power, by direct and indirect suggestions, to lead the young man to tabooed and sexual

matters. And, furthermore, the young man was not permitted to associate freely; his mind was constantly being directed by Professor Freud's questions and suggestions.

11. In a properly conducted scientific experiment, undertaken with the object of determining why a scholar forgot a particular word in a given verse in a foreign tongue, it would be of the utmost importance to determine what percentage of students (of a certain age and in a given state of health, etc.), who had learned that particular verse a certain number of years ago can recall that verse correctly. It would also be important to estimate how many forget the significant words, how many the insignificant words, how many the verbs, etc. Then it would have to be determined whether psycho-physiological causes alone would or would not account for the forgetting in all as well as in particular instances. Only after all this was done and the forgetting could not be explained on known and proved psychological principles, would we be justified in resorting to an unproved and hypothetical assumption. Professor Freud has made no such study and therefore his "analysis" of the forgetting of the word "aliquis" in one particular instance has absolutely no scientific value. In this connection I may mention that not a single scholar to whom I spoke of the "familiar verse" under consideration was able to recall it correctly. And surely no one, except perhaps Professor Freud, expects to be able to recall all the Latin verses, even such "familiar" ones as "Exoriare," etc., that he had learned in his student days. And it would require a great deal more evidence than has yet been offered us to make us believe that all these instances of the forgetting of the verses are "complex"-determined.

12. Another matter that should have been determined by Professor Freud before he drew his conclusion about "a second mechanism of forgetting" is the question whether he would not have elicited the same facts if the young man had happened to forget some other word, *e. g.*, "exoriare," in the sentence, instead of the word "aliquis," or had forgotten to tie his cravat or lace his shoes. Had the young man that morning really been worried about his friend's menses we would have no hesitation in saying that sooner or later he would have spoken of that subject in associating to any word in the given sentence, or in any other sentence, or to his untied cravat. This would completely disprove the supposition that the forgetting of the word "aliquis" was "complex"-determined.

13. The fact that after several minutes' talk, consisting of free

associations and answers to suggestive questioning, the young man spoke of a subject of a private and personal nature, *i. e.*, a woman's menses, does not prove that there was a causal relationship between the forgetting of the word which was the starting point for the colloquy and the presence in the young man's mind of a latent worry about that woman's menstrual period. We must remember in this connection that the gentleman had *not* worried about the matter, and that he said only that he *could* get a message that would be unpleasant. But even if he had been anxious about the matter, that would not prove that there was a causal relationship between that worry ("anxious expectation") and the forgetting of the word "aliquis."

14. In his commentary on the analysis, Professor Freud says that the young man had "expressed a wish for posterity." But he had really not done so; he had only implied a wish that in the future some one might arise who would avenge the wrongs of the Jews. This has nothing to do with his own posterity. And incidentally, but by no means irrelevantly, it may be pointed out that in such a situation as that we are now dealing with the young man would be sure to say "progeny" not "posterity," if he were thinking of his own offspring. It remains yet to be shown that the wordless Unconscious identifies "posterity" with "progeny."

15. Continuing his commentary, Professor Freud says that "at that moment a contradictory thought introduced itself" into the young man's mind. As we have heard nothing of this "contradictory thought" from the young man himself, we must infer that Professor Freud assumes that the "thought" of which he speaks ("Do you really earnestly wish for posterity? That is not true. In what a predicament you would be if you were now to receive information that you may expect posterity from a certain quarter which you have in mind! No, no posterity!") and which inhibited the recollection of the word "aliquis" was unconscious. But we have been taught that the Freudian Unconscious consists of repressed, forbidden desires, of conative trends, of speechless urges, yearnings, cravings. Surely, the unconscious thought which Professor Freud attributes to the traveling academician cannot be described as an urge, a longing, and much less as a repressed desire. Thoughts and impulses (cravings, yearnings) are not identical phenomena, and one cannot be substituted for the other. If the subject had those thoughts (not "that thought") he was conscious of them as such, and if he was not conscious of them they were not the unconscious determinants of the forgetting. Uncon-

scious thinking is an oxymoron which is made impossible by Professor Freud's own definition of the wish-character of his "Unconscious."

16. Why, it may be asked, did Professor Freud stop his investigation when they came to the matter of the possible gestation? What reason had he for concluding that the search was finished? Why didn't he ask the gentleman to continue his "free associations"? Surely the possibly suppressed menses were not the only unpleasant subject that might have occurred to the young man's mind if the investigator had continued to quiz him long enough. In fact, it is more than likely that very unpleasant thoughts which had actually occurred (not that "could" have occurred) to him might have been elicited without any very great difficulty. Professor Freud's procedure leaves no room for doubt that he stopped his "investigation" when he found something that seemed to coincide with what was in him a foregone conclusion, namely, that something of a sexual and painful nature lies behind every forgetting. That this is so is corroborated by his statement that "every similar case that you will analyse will lead you to just such remarkable 'coincidences.'" Needless to say, it explains the unscientific technique pursued by Professor Freud throughout his "investigation"; his bias and his "hope to get an addition to his collection" ruined what in the hands of a more careful scientist might have been an important experiment.

17. Owing to the extrinsic associations between the word "aliquis" and one of the elements of the (conjectured) objectionable wish, this insignificant word was repressed so intensely that it could not be recalled. That is what Professor Freud would have us believe. The forgetting saved the young man from the pain which he might have felt as a result of the unconscious associations emanating from the presence in consciousness of the in itself harmless word "aliquis." To us this theory seems to be sufficiently disproved by the fact that the intrapsychic censor, so solicitous about the young man's feelings, did not interfere with his recollection — under Professor Freud's guidance — of the much more direct and significant allusions to blood, the months of the year, St. Simon, etc. If these things so readily recurred to the gentleman's mind, surely the word "aliquis" should have been passed by the censor.

18. One of the most serious errors committed by Professor Freud in the above analysis was his omission to get his companion's free associations to the English word "liquidation." Needless to say, the young man may have known, and probably did know, that "liquida-

tion" and "liquefaction" are not synonymous terms. And we, therefore, have here a word — the third in his associations — which has no reference to the assumed "complex," switches away from what we are asked to regard as a "complex-indicator," viz., the word "reliques," and leads back again to another "indicator" ("fluidity"). Why this happens is nowhere explained, nor is the fact itself pointed out or commented on.

Had the gentleman been invited to associate to "liquidation" we might have obtained some very interesting, and perhaps painful, data about his financial affairs, about difficulties in meeting his bills, about the importance of money to the Jews (and this would connect up with the conversation which led up to the lapse), etc. In this way, no doubt, important matters might have been elicited, perhaps not of a sexual nature, which had actually engaged the young man's conscious attention that morning. And in that case it would be left to us to decide whether these ideas or the possible worry about a woman determined or influenced his forgetting the word "aliquis."

It is not impossible either that had he been encouraged to continue his free associations to "liquidation," "fluid" and "fluidity" we might have elicited the recollection of enuresis nocturna, and then we should have been in no doubt as to the reason for his forgetting the innocent "aliquis." This would be strictly in accordance with Professor Freud's theory that behind ambition (Note the opening conversation!) we often, if not always, find unconscious memories of enuresis in childhood. Note, in this connection, these associations: a liquid, a relic of childhood, Simon (infants all wet their beds), Kleinpaul (the little Paul, *i. e.*, membrum virile), stream (!) of thoughts, women (girls probably suffer from enuresis more than boys), etc.

One would have thought, too, that before Professor Freud had reached the conclusion that the possibility of hearing of the non-occurrence of a certain woman's menses could cause a young Jew who had once studied Latin and some English to forget the commonplace word "aliquis" in a verse in Virgil's *Æneid*, that he would at least have inquired whether the gentleman in question had been able to recall that verse correctly a month or more prior to the reported conversation. But that seems not to have occurred to Professor Freud. And yet we all know that we sometimes forget words, names, quotations, etc., which at other times we can recall with ease. In the present instance this fact would, obviously have been of the utmost importance; if the young Jew could not have recalled the verse correctly prior to his liaison there would be nothing surprising in his present lapse of memory and we would not be expected to believe that this lapse was due to a possible concern about possible progeny. In the absence of any information along this line, the analysis of the forgetting of "aliquis" loses any possible value as a scientific experiment that it might possibly otherwise have had.

Inasmuch as Professor Bleuler, notwithstanding his repudiation of the bulk of Freud's teachings, defends the analysis of the forgotten "aliquis," we shall briefly examine some of his statements and arguments ("Jahrbuch f. psychoanalytische u. psychopathologische Forschungen," 1910, vol. 2, pp. 648–654).

He says that according to Freud the word "aliquis" "reminded" the gentleman's Unconscious of the absence of an anxiously anticipated menstruation. This statement is erroneous in the following respects: The Unconscious does not remember or reason or know or think, — it only wishes and wishes in symbolic or pictorial form; hence the word could not have "reminded" the Unconscious of anything. Then, too, the gentleman did not know that the menses had not appeared, and we have no evidence anywhere that the man was worried about the matter; he said only that he "could" get news that would be unpleasant.

Professor Bleuler thinks that the forgetting of "such an ordinary word as 'aliquis' is extraordinary and needs special explanation." This is not true; besides, he begs the question. If anything, an ordinary word in a foreign tongue ought, according to all known and accepted psychological principles, to be more readily forgotten than an uncommon word. The law of associations applies. Besides, if the young man did not know the exact meaning of the verse in question and the force of the bivalent word "aliquis," we would have a sufficient explanation for his inability to recall it.

Very few Latinists, says Bleuler, would have divided the word "aliquis" into "a" and "liquis," inasmuch as this word has nothing to do with the root of the word "liquidus." But there is absolutely nothing in Professor Freud's narrative to warrant the assumption that the young man was a Latinist. The ability dimly to recall a Latin verse from one's student days does not make one a Latinist. And it remains to be shown that the gentleman in question knew enough Latin to know the etymology of the word "aliquis." We have known fairly good Latin students who didn't know that. It does not, then, follow that there was a complex-determined preparedness in the gentleman's mind for the incorrect division of the word "aliquis." And, furthermore, we have no means of knowing whether he even knew the correct scansion of the verse he intended to quote (He misplaced some of the words!) or on what syllable to put the main stress in the forgotten word. If he read the word "aliquis" in this verse with the stress on the first *i* (a-li-quis) we would think it quite natural for him to begin by dividing it into "a" and "liquis."

Bleuler asserts that it was extremely unlikely for the subject accidentally to divide the word "aliquis" as he did inasmuch as he showed no special tendency to "sound associations." But in this Professor Freud's champion is in error, for, as a matter of fact, the young man went on to associate "reliques" and "liquidation" to *liquis*.

The other points raised by Professor Bleuler do not call for special attention as they have practically all been dealt with in our comments on Professor Freud's analysis. But before we dismiss the subject we venture to raise a theoretical question: if a possible concern about the possible non-occurrence of a woman's menses could cause the forgetting of a word so remotely and indirectly related to this phenomenon as the word "aliquis" is, why did it not rather cause the forgetting of the word "exoriare" (exorcism, expulsion, abortion) which can be so much more directly linked up with the presumedly apprehended gestation?

Summing it all up, we may say that Professor Freud has not proved or even shown it to be probable that the forgetting of the word "aliquis" was complex-determined, that the Unconscious had anything to do with it, or that there was any relationship between the forgetting and the matters he elicited by his questions and suggestions.

EXHIBITIONISM

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ACCORDING to Freudian theory, original human nature includes an instinctive tendency to exhibitionism which, in its primary form, displays itself in acts of immodest exposure, and which has various derivative forms, such as demanding attention in the presence of others, being noisy and silly when strangers are about, and showing excitement when under observation. The original stimulus for this instinctive removal of clothing and unadorned parading is not described, but the implication is that it is the sight of other people.

An examination of this thesis, that all ways of making one's self conspicuous are modifications of an instinctive tendency to sexually immodest acts, will show two points of serious weakness. In the first place, it is only necessary to examine the development of any exhibitionary act to discover that it is learned. In the second place, it seems possible to demonstrate that many forms of exhibitionism are for the most part the result of non-sexual mechanisms. If these propositions can be demonstrated, exhibitionism is shown to be neither instinctive nor necessarily derived from sex behavior.

Our present knowledge of the acquiring of habits by infants makes it possible to explain how exhibitionism may be developed through learning. Even emotional reactions to visual stimuli are possible only as conditioned responses, and are never the instinctive result of what the baby sees. Watson has shown how a baby develops a conditioned fear response. Fear may be produced by the sight of an animal, provided the baby has first been frightened by a sound stimulus while looking at the animal.

It is probable that any emotional response may come to be conditioned in the same way upon visual stimuli. The preference of children for noisy toys is attributable to the fact that noise arouses emotion and secures attention. For the same reason children pay more attention to human beings than to inanimate objects. Human beings, because they move about, converse, and interfere with the baby, are more likely to stimulate the baby's emotions. Hampering the baby's movements is an original stimulus to rage, and such a stimulus usually occurs when human beings are present and are looking at the baby. Thus excitement becomes conditioned on the situation of *being looked at.* Sex excitement is aroused by the stimulation of erogenous zones, and the baby usually receives this stimulation at the hands of others, and usually when without clothing. Thus the sight of others, or the removal of clothing, may become the substituted stimulus for sex excitement. Children are excited in the presence of others because the sight of people is the most frequent accompaniment of those original stimuli that produce emotion. This excitement reinforces learning, so that responses aroused by and directed toward people come to have very low thresholds.

When a habit is firmly established and an occasion arises when the successive stimuli upon which its performance depends are not all present, there is a marked emotional disturbance. Most habitual responses of children to other people depend upon being looked at, spoken to, and played with. When the attention of others is withdrawn, the child's habits are disrupted and he is emotionally wrought up, just as a man fumbles with his hat, increases his pace, and behaves queerly when his greeting to an acquaintance goes unnoticed. The boisterous or silly acts of the unnoticed child are compromise responses. The adult who is present, but not attentive, starts habits going in the child which can not be completed without the adult's co-operation. Under these circumstances children perform many acts that might be called random, but that are in the nature of compromise responses depending upon the unusual array of stimuli and upon the emotion resulting from the blocking of habitual modes of behavior. Finally the children do something annoying, amusing, embarassing, or otherwise striking, and the people present give attention.

Many of these attention-securing acts of children are what we call exhibitionism, and these acts become fixed as habitual responses to people who are not paying attention, just as the successful responses of the cat in the puzzle-box become attached to the stimulus of the door-opening device. By trial and error every child hits upon the acts that secure him attention. Swearing is such an attention-securing act, and for this reason swearing is readily learned by children. No word is called profane that does not shock the hearer. If Freud had been less interested in sex, the prevalence of blasphemy might well have led him to enumerate it among the instincts, notwithstanding its diverse expression in many languages. This would be hardly less absurd than to regard the particular forms of immodesty determined by various folkways as an instinctive mechanism.

The nature of exhibitionary behavior depends less upon the instinctive endowment of the child than upon the situations to which adults have learned to give attention. The likelihood that a child will develop immodest habits is proportional to the favorable attention which his immodesty secures for him. It is significant that deliberate immodesty among children occurs oftenest in the presence of strangers. This is in part because under such conditions parents are preoccupied. Being noisy, saying "watch me," pulling the abstracted person's coat tails, and immodest acts, are all developed in the same way. While the child watches the averted faces of those present his acts which do not secure him attention are finally abandoned, because they bring stimuli to bear which lead him to do something else. If he repeatedly asks a question and is persistently disregarded, this may lead to rage or grief, or some part of the situation may engage his attention so that in becoming interested in something else he ceases his questioning, and negative adaptation of the questioning results. If, on the other hand, the question is answered, the face of the person who answers ceases to be averted and negative adaptation of the act of questioning does not occur.

Many of the exhibitionary traits that children develop through trial and error are not of a sexual character. The fact that all children exhibit modesty and its correlate, immodesty, is certainly in part the result of the almost universal response of adults to those chance acts of children which offend their acquired notions of decency. Many of these chance acts are not sexual in origin. All that is needed for children in general to develop the same habits is that they be exposed to the same situations. A child, may, without intention, commit acts which strike all sophisticated adults as being indelicate long before he has come to perceive these acts as sexual, just as a foreigner may transgress the customs of the country and so unwittingly attract attention to himself. Most acts of immodesty result in being confronted with a shocked and therefore attentive observer. This exposes all children to a social control that is the result of the sex education of adults. The uniformity of manner in which immodesty is shown by children would seem to be the result of their sharing a common environment rather than the result of their being endowed with immodest tendencies. This behavior later acquires for them its sexual significance by association with primary sex situations.

Exhibitionism is probably then not an instinct. Neither is it always derived from sex behavior. Anger is as likely as love to be its emotional reinforcement. Exhibitionary acts are learned through trial and error responses to the situations in which children are placed and the striking likenesses in the exhibitionism of children the world over have as their cause similarities in culture and the commonality of human nature. Their equally striking differences are due to differences in culture and to the idiosyncrasies of situation confronting every one.

FURTHER DATA CONCERNING SEX DIFFERENCES

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THE mental test seems to have said its utmost on the subject of sex differences, and the results have been on the whole surprisingly at variance with the insistent prejudices of the average man and woman.

When common sense and science clash it is more often science that has the last word, but not always. Occasionally the worm turns, and a supposedly scientific doctrine unacceptable to common sense continues to be scrutinized until a glaring flaw is discovered either in the method or the interpretation of results that led to the doctrine. The history of medicine is strewn with the wrecks of such doctrines, and psychology bids fair to number at least its fair share of derelict "scientific" notions.

For example, test comparisons seem to have revealed negligible differences of performance under conditions of good and bad ventilation; after a good night's rest and after a three night vigil; with and without distraction of attention. To common sense this only proves the inadequacy of any competitive test to set forth the differences that are normally to be expected as the result of such environmental variations. And common sense rightly insists on an interpretation of these results in keeping with its assumption that unfavorable environmental conditions do make a very considerable difference in a subject's mental efficiency for all practical purposes.

Very much the same may be said of the small differences apparent in the test scores of men and women. So far as these results suggest the interpretation that the mental differences between the two sexes are after all comparatively insignificant, they suggest something that common sense and universal experience refuse to allow. Such results again promise to stand as the mark of the inadequacy of the psychological test to get at the most important features of mental differentiation.

Actual mental achievement will always depend more on one's interests and enthusiasms than on one's downright native capacity. It is the emotional bias that compels one man to continue thinking constantly about his inventions while other equally facile minds are ready to call eight hours a day. Even if we accept Woodworth's doctrine that every mechanism may become a drive, and subscribe to the present critical attitude toward instinct as a principle of explanation of differences in behavior, we are nevertheless forced to admit that an environmental account of striking differences in the "drives" of men and women is hard to maintain in the face of the remarkable duplication to be found in the present education of men and women in grade school, high school, and college. Both the curricular and the extra-curricular activities of the two sexes have become cast in the same mould, and their social recreation has become stereotyped into the same round of movies, bridge and dancing. Under these conditions any wide differences of interest must stand as being to a great degree an expression of difference of natural emotional aptitude, of an unyielding innate divergence that predetermines the enthusiasms that are to be expected from the two sexes in identically the same environment.

The earlier simple word association tests have already given a hint as to the possible extent of such differences. Jastrow[1] at Wisconsin found that women's word associations contain references to wearing apparel and interior furnishings twice as often as do men's. On the other hand men's associations contain about fifty per cent more verbs and references to occupations, and about forty per cent more references to implements and utensils. Miss Manchester at California[2] found results roughly in agreement with those of Jastrow. But mere word associations are necessarily limited by such chance mechanical factors as recency and frequency. Moreover, the subject is never free from the special mental set prescribed by the instructions as he understands them in such a test, and it is impossible to say just how far the inhibitions incident to a test-taking attitude render the results an unnatural expression of the subject's thought-content.

The presence of strong personal interests is nowhere more apparent than in the natural trend of easy conversation, when the topics seem to be flowing of themselves. This seems to be especially true at the end of the day, when the mind is comparatively free from the preoccupation of immediate tasks at hand. Under these circumstances what does the spontaneous choice of topics lead women to talk about, and how does their list of topics compare with that of men?

To secure an exact comparison of masculine and feminine leitmotifs in conversation the writer made a practice for several weeks of walking slowly up Broadway from Thirty-third Street to Fifty-fifth Street at about seven-thirty every evening. Every bit of audible conversation was jotted down. On account of the various street noises and interruptions it was exceedingly hard to listen in for more than a few seconds on any one conversation without very apparent efforts at eavesdropping, and six fragments were an average evening's collection. In all one hundred and seventy-four fragments were jotted down, and later listed by topics and classified according to whether the speaker was a man or woman, and whether the company was mixed or of the same sex. There were eighty instances in which a man was talking to another man or men; thirty in which a woman was talking to another woman or women; thirty-two in which a man was the speaker in a mixed group, and thirty-two in which a woman was the speaker in a mixed group.

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[1] J. Jastrow, Community of Ideas of Men and Women. Psych. Rev. III, 1896, 68–71; 430–1.

[2] Genevieve S. Manchester, Experiments on the unreflective Ideas of Men and Women. Psych. Rev. XII. 1905, 50-66.

The following table states in percentages the relative frequency of five topics in each of the four types of social group.

	MAN TO MAN	WOMAN TO WOMAN	MAN TO WOMAN	WOMAN TO MAN
1. Money and business..........	48%	3%	22%	12%
2. Amusement.................	14	4	25	10
3. Persons of same sex..........	13	16	13	13
4. Clothes, buildings, interior decoration.....................	2	23	3	17
5. Persons of opposite sex......	8	44	10	22

It will be seen from the above results that the preoccupation which dominates one half of man's conversation influences but three per cent of woman's, whereas the theme of nearly one half of woman's conversation finds its place in less than one twelfth of male discussion. Further, woman's second most important topic, affording twenty-three per cent of her conversation, furnishes man but two per cent. Men, home and clothes supply the natural drive for sixty-seven per cent of woman's thoughts. Similar motives in man are accountable for only ten per cent of his topics. As against this, sixty-two per cent of man's drive seems to originate in money, business, and amusement, motives which get altogether only seven per cent of woman's spontaneous consideration.

The conversation of mixed groups, with a few significant exceptions, tells practically the same story. Adaptations are made on both sides, and in this woman excels, for she quadruples her interest in money while talking to men, while man's largest adaptation consists in doubling his interest in amusement while talking to woman.

The following are typical instances of the two main topics of each sex.

MAN'S PREDOMINANT TOPIC

FORTY-EIGHT PER CENT FREQUENCY

"That made $1,000 for February."

"He'd lease it to you for a year."

"I sold it for three times what I paid for it."

"We've been firing employees and then taking them back."

"I'll save money out of it."

"Pay your own, pay your own."

"He's making good money."

"It'll set you $5,000."

". . . and use him accordingly. Why, if a man wants to make a dollar . . ."

"I can buy it in the market, in the market."

"It is at least $10 or $15."

"Say you make $100,000, $50,000, $25,000 at that kind of speculating . . ."

"I had only five and a half bucks when I hit town."

"You mean he wouldn't sell it?"

"He's insolvent, this is no place for him."

WOMAN'S PREDOMINANT TOPIC

FORTY-FOUR PER CENT FREQUENCY

"She was just as glad to see him as he was to see her."

"He left for Canada Saturday."

"Sure, I spoke to him."

"She says, 'when did you get in town?', and he says, 'today, and I've got to leave right away.' "

"They were all enlisted men."

"Even if I wasn't married, and I never expected to see him again."

"He had the very same expression."

"And I said, 'boy, you know!' "

"What's the use talking to that man?"

"And so he was to come."

"Then I saw the other fellow."

". . . always with the good old smile. I'd like to see him look worried."

"But the other fellow wouldn't salute."

"So I said to him."

"He was in town for a visit of three days."

MAN'S SECOND TOPIC

FOURTEEN PER CENT FREQUENCY

"It was an old-fashioned roadster, with the . . ."
"I can't sit through that kind of thing."
"That's the best cigar I ever smoked."
"He didn't buy forty cents worth of drinks."
"Charlie Chaplin's playing at the next one."
"They came home the next morning, half lit."

WOMAN'S SECOND TOPIC

TWENTY-THREE PER CENT FREQUENCY

"She's having a suit made, a swell one."
"Do you remember the full blue skirt I had last year?"
". . . to wear the hat . . . how to get myself together."
"I think I'll buy three pairs of silk stockings."
"I wish I had the nerve to wear it; I love that color."
"It will certainly be pretty when they get all the decorations."

After making every possible allowance for differences in convention and personal experience, it is hard to escape the conviction that the original nature here depicted is of two fundamentally different sorts, and that the two types could hardly be permanently adapted to identical interests. To be sure, it may be contended that Broadway is not to be taken as a representative cross-section of the country; and this is a happy consideration on many accounts, for one of the unhappy revelations of the material collected was the scarcity of anything resembling serious discussion of general topics. The somewhat intentional levity of the Great White Way necessarily exempts it as an adequate criterion of what America habitually thinks about. But granting that both men and women are in a mildly ecstatic state of light-heartedness, why should the esctasy of women run to men, clothes, and decoration, while that of men runs to money, business, and amusement? One cannot but believe that if further samplings were taken under a great variety of conditions, the outstanding facts would be the same. Certainly the conclusion from this tentative random selection of fragments of conversation is that there are very considerable and ineradicable differences in the original capacities of the two sexes for certain types of enthusiasm, and this difference must of necessity set an ultimate limit to woman's success in assimilating male spheres of interest, regardless of the apparent equality of capacity often indicated by mental tests.

THE PROBLEM OF RACIAL PSYCHOLOGY

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ACCORDING to Woodworth,[1] the problem of racial psychology is to find quantitative differences in mental traits between races since there cannot be any real qualitative differences. At least we cannot think of memory in one race as being different in quality from memory in another race, nor can we think of a qualitative difference in imagination among human beings. It is just imagination, human process. We find a more poetic, though perhaps less cogent, statement of this common similarity among peoples in a larger sense in the words of Hiamovi, Chief among the Cheyennes and Dakotas: "There are birds of many colors — red, blue, green, yellow — yet all one bird. There are horses of many colors — brown, black, yellow, white — yet all one horse. So cattle; so all living things — animals, flowers, trees. So men: in this land where once were only Indians are now men of every color — white, black, yellow, red — yet all one people."[2] But if there are no real measurable differences[3],[4] we are compelled to think of similarities which would bring us to the alternative that there is only one racial mind, just human mind.

The experimentalist in race psychology brings from the psychological laboratory certain methods of procedure. In the first place he must measure the process to be studied; secondly he must maintain standard conditions; and, finally, he must interpret his findings. Such a problem then demands two so-called races, R_1 and R_2. It next demands a device for measuring, D. The results of the two sets of measurements, R_1D and R_2D when brought into comparison would indicate the differences if there are any. This then would seem to be the problem of racial psychology. If the method of solving the problem were as easy as the statement of it, all would be well, but this, like most methods of solution of straightforward problems, breaks up into a lot of subsidiary problems. Thorndike says: "The facts are measurements of differences between groups which are distinct to an unknown degree in traits which are influenced by training to an unknown degree."

Being a psychological problem and also biological, the facts of variability enter in the first place before we have gotten a fair start in the process of measurement, hence the experimentalist in race psychology must ask of the geneticists and the anthropologist this question: "Are the individuals of the group being measured fair samplings of the race to be measured?"

From another standpoint the question is a psychological one pure and simple. Psychology recognizes two classes of behavior, native and acquired. The first is a matter of germplasm; the second, a matter of nurture. Unfortunately innate behavior changes with environment and experience so that it "masquerades"[4] as learned behavior. In consequence, in adult life we do not find any pure instincts because the "native patterns" and "orders"[5] have been modified by experience.

In the writer's opinion these two factors, selection of individuals to be tested, and the mechanism of modification, are causing the difficulty in race psychological work. They are always troublesome but peculiarly so here.

Being a question of innate tendency, it is, as we have said, a question of germplasm. Geneticists have taught us to conceive of germplasm as a thing independent of disease and circumstance, at least theoretically, and that it is capable of producing mutations and of recombination; that it flows on down the course of time always resident in individual carriers. Being in a state of flux, it sometimes produces this form and sometimes that. At times these combinations serve to raise the individuals forming the group, and at other times they are such as to lower the group; but these states are only temporary, mere incidents in the life history of the germplasm. The horses of the Western plains of America are neglected breeds of a once proud lineage which might be reclaimed by eliminating the unfit in the breeding process. As it is now, certain individuals with some eye to business make a practice of catching them in the wild state and turning them over to civilization for a very small profit per head. This to show to what degradation the breed has fallen. But it is to be noted that circumstances have permitted germplasm to produce such patterns as have been found on the plains among both cattle and horses.

No doubt races of men are susceptible to the consequences of adventitious breeding just as are cattle and horses, for at times the unfit germplasm may predominate because of circumstances favorable to them. If today we could measure Greek intelligence we might not think much of it, but if we had measured it 3,000 years ago the norm might have been different; on the other hand, if we had measured Anglo-Saxons in Aristotle's time, the norm would probably have been rather low on the scale. If the god of war should call forth to slaughter all the mentally fit of the white race today, the norm of the survivors would be low — unless the women of this type should survive and serve to transmit their share of superior germplasm. An examination of McDougall's latest book, "Is America Safe for Democracy?" brings to us this statement: "Selection. It is of the very essence of civilization that, as it progresses, it abolishes more and more completely the operation of the various forms of natural selection which in primitive peoples undoubtedly tend to maintain and promote racial qualities. And in our modern western nations, medical science, charitable organization, and protective legislation have pretty well achieved the abolition of natural selection."[7]

Moreover, being a question of behavior, the factors of modification must be controlled when we experiment in race psychology; not because we wish to study the modifications per se, but the effects of germplasm on modification and vice versa. It is more than likely that the mechanism of the conditioned reflex will serve to distort a behavior so that its possible racially natavistic pattern will not be recognizable. On the other hand, an artificial pattern might become so universal that it could easily be taken for innate behavior in the race. Again, we can see that learning might languish by the way because of lack of a drive, for trial-and-error never flourishes excepting in the domain of necessity, the mother of invention. Consequently possibilities of mental sorts would never be realized because the individual has never been goaded on by necessity. Higher orders of habits would never be built up, even if they were possible; and if these have neurological counterparts, neural areas would lie fallow. All this for want of necessity, essential for that modification of behavior called learning, especially of higher sorts. Learning of various sorts brings about methods which may be carried from one sort of learning to another. These latter are products of modification but are found only in those individuals who have the various sorts of learning out of which the methods spring and which possess the roots of these methods. Only those individuals possessing the learning can possess the methods, and if they do not possess the learning experience they cannot be expected to possess the method. In fact, one does not know what can be done by such an individual until he has had the opportunity of acquiring the process basal to those still higher processes called methods. While of course it is a sort of higher order "habit," still "method" may well be singled out as peculiar because of its seeming intangibility. Nevertheless experimentalists are confident of having found it in the psychological laboratory. We do not mean to imply that all individuals of the civilized races possess these higher methods to a generous degree, for they are not traits of any one race, just as feeblemindedness is not; but we may expect to find them where opportunity has been given for their acquisition, in a civilized society.

Another factor of modification is interference of one sort of learning with another. By way of illustration, in the same individual one race practice, well established to begin with, will undoubtedly interfere with the learning of another and different race practice if the individual endeavors to learn the latter, especially if the two run at cross-purposes. It is just possible that the "last state" of that man would be worse than "the first" in some instances. Little also is known of the real nature of affection, or feeling, however it functions in modification of behavior. One race cannot account always for the affective reactions observed in another, and tolerance is necessary on the part of both. But just these differences may account for some "racial differences" in behavior.

On the whole, the question of the intelligence of one race as compared with that of another must be settled in the light of the facts of a dynamic psychology such as is held today, some of whose principles we have just enumerated.[8] We may not just measure two races and say we have found these differences, ignoring the fact that the differences may be caused by some mechanism of modification; nor may we ignore that the group of individuals may not be representative of the race supposed to be measured.

Another important phase of the experiment is the technique of its administration, which would include placing the subject at his ease. It is just possible that white children have an advantage over Indians and negroes in this respect with a white experimenter administering the psychological test, whether it be an individual or a group test. Some conditions cannot be perfectly controlled. This loophole, however, should be most carefully guarded.

Though for a long time work in the field of race psychology seemed unprofitable, activity in mental testing has caused an encouraging revival of interest in this field. No one knows where it will lead. It is barely possible that the psychological and sociological by-products of such industry may prove as valuable as the direct results obtained. This has been true in other fields of psychological work, as for instance, that of comparative psychology in seeking the beginnings of consciousness. Romanes may have been following an endless trail in his search for these beginnings; and his question as to whether it is "the Angel that descends to trouble the waters, or the troubling of the waters that calls down the Angel" has never been satisfactorily answered for many individuals. If it should seem that our tests do not indicate real racial differences at first blush, the results afford material on which we may base further investigations. At least we shall have data and we shall know how we obtained the data; and if this is well done we can say the analysis of the problem has been started.

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A Young Girl's Diary. Prefaced with a Letter by Sigmund Freud. Translated by Eden and Cedar Paul. New York. Thomas Seltzer, 1921. Pp. 284.

A large sale is evidently expected for this unique and extremely interesting volume for its shelf-jacket bears the now familiar legend,

"This book is intended for parents, educators, and members of the medical and legal professions only."

And there are certainly multitudes of these classes of our population, as there are too of those who might become parents or educators or lawyers or physicians. Thousands of more or less similar diaries, still in MS., are in existence in the United States, without a doubt, in the "strong-boxes" more or less strong, of young women and of women who "love" to think they have been young. But not since "The Young Visiters" departed has the budding feminine soul been so widely revealed.

Of course the puissant Sigmund Freud of Vienna is wholly right (can he indeed do wrong?) when he writes in his letter quoted as part of the preface:

"This diary is a gem. Never before, I believe, has anything been written enabling us to see so clearly into the soul of a young girl during the years of puberal development. . . . Above all, we are shown how the mystery of the sexual life first presses itself vaguely on the attention, and then takes entire possession of the growing intelligence, so that the child suffers under the load of secret knowledge, but gradually becomes enabled to shoulder the burden. Of all these things we have a description at once so charming, so serious, and so artless, that it cannot fail to be of supreme interest to educationists and psychologists." It cannot indeed.

The diary covers the years between eleven and half-after-fourteen, and any young woman would tell a sceptic that it is certainly authentic, — indeed would be apt to point out striking similarities to diaries which she has seen, written nearer home than Wien. The volume will serve a useful purpose in reminding many a man and woman what adolescence meant to them in the evolution of their sexual life, things so familiar to them now that they seem always to have been known. This reminding in some cases will lead them to help their growing sons and daughters more easily over the "horrid" yet always enticing obstacles on the road to a personality really appreciative of the marvel of love. For love is, as De Morgan calls it, "the mystery of all mysteries," and to multitudes a very sacrament. But so many as yet have not attained to this deeper insight! George Van Ness Dearborn.

The Glands Regulating Personality. By Louis Berman, M. D., Associate in Biological Chemistry, Columbia University. New York. Macmillan, 1921. Pp. 291. Price, $3.50.

Psychologists and physiologists alike have recently placed much emphasis upon the glands of internal secretion as determinants of behavior. Their claims have become broader and broader. At first it was only the emotional and affective life of the individual that was considered to be, in part, a function of the action of the hormones; then the theory of glandular determinants of racial and sex differences attained general recognition: and more recently the foundations of temperament and character have been identified with the innate individual differences of the action of the endocrines. Doctor Berman's book is a statement of the extreme position held by those who have been dazzled by the possibility of a glandular explanation for all the forces underlying behavior. "Man," says the author, "is the creature of his glands of internal secretion. . . . The incontestable evidence, that first pointed to, and then proved up to the hilt, this answer to the question: What is Man? has been gathered in less than the last fifty years." The statement that man is the creature of his glands of internal secretion may be considered the author's major premise. If this characterization of man is just, and if we accept the obvious fact that physiology has progressed a long way in the explanation of mechanisms of hormone functioning, then we may readily admit the conclusion that with a few additional revelations from the endocrinologists the riddles of personality will be solved once and for all! With such reasoning the author's optimism is not to be wondered at: "We may now look forward to a real future for mankind because we have before us the beginnings of a chemistry of human nature. The internal secretions . . . have been discovered the real governors and arbiters of instincts and dispositions, emotions and reactions, characters and temperaments, good and bad."

The author unfortunately does not see fit to offer the experimental evidence to support his contention that the internal secretions have been discovered to be the governors of behavior. The reader is left unsatisfied as to proof for the marvellous alleged properties of "the interlocking directorate of glands." He is told, e. g., that the post-pituitary regulates the maternal instinct, that the anti-pituitary and the gonads influence the evolution of judgment, that imagination is the product of balanced activity of the ante-pituitary and post-pituitary, and that memory is a function of the thyroid secretion. If there be evidence on hand to support these striking assertions surely it is well worth the publishing. The critical reader is lost in a confusion of fact and fancy, and in trying to separate the justified from the unjustified conclusions finds himself necessarily in a defensive attitude.

The author brings physiognomy up to date and gives it a new lease on life. Dominating glands within an individual are considered to be the basis for qualities of both physique and character. It follows that if we would analyze our fellow man with regard to his personal capacities we have only to refer to certain characteristic features of the body to receive an unmistakable index of character. The principal personality types which may be recognized by the endocrine criteria are the adrenal centered, the thyroid centered, the thymus centered, the pituitary centered, the gonad centered, and their combinations. The professional physiognomist is wont to give sample readings of famous figures to prove his scheme. Without doubt the book under present consideration is superior to popular character analysis, and yet the reader is struck with the author's use of the same device for support of his contentions. Towards the end of the book we find that Oscar Wilde, Charles Darwin, Napoleon, and Florence Nightingale are all neatly pigeon-holed according to the peculiarities of their glands of internal secretion and the correlative traits of character. We must object that to attempt an endocrine analysis of geniuses long since dead is, to say the least, — presumptuous.

The author's view on mechanism in the universe, as stated in the introduction, while rather irrelevant to the main interest, is decidedly good reading. There follows a valuable chapter on the history of Endocrinology. The remainder of the book, as has been pointed out, is concerned with assertions which seem for the most part to exceed the warrant of present physiological knowledge. It may be that we are dealing with a book of prophecy if not of experimental fact; the future may demonstrate the man as indeed nothing more than "a creature of his glands of internal secretion." The prophecies as well as the conclusions, however, seem to be too generously assumed; the pendulum seems to have swung too far. When physiology has made the last of its contributions to the study of human behavior — and the list of its contributions will be a long one — even then psychologist may find that he need not surrender the problem of human personality entirely to the endocrinologist. GORDON W. ALLPORT.

HUMAN NATURE AND CONDUCT. By John Dewey. Henry Holt and Company, New York, 1922. Pp. vii + 336.

"The book does not purport to be a treatment of social psychology. But it seriously sets forth a belief that an understanding of habit and of different types of habit is the key to social psychology, while the operation of impulse and intelligence gives the key to individualized mental activity. . . . Mind can be understood in the concrete only as a system of beliefs, desires and purposes which are formed in the interaction of biological aptitudes with a social environment." (From the Preface.)

In this spirit Professor Dewey treats his subject under four headings: Under the Place of Habit in Conduct, he shows the relation of habit to character and custom. Under the Place of Impulse in Conduct he recognizes that impulses are important, but insists that they must not be treated as abstractions, since "the *meaning* of native activities is not native; it is acquired," i. e., secured in the social environment. Here too he explains that a rigid classification of instincts is impossible, and any over-emphasis of one, like "self-love" or sex, is fallacious. The Place of Intelligence in Social Life, as the third division of the book, includes an explanation of the way intelligence grows out of conflict of habits, and a description of the active, essentially participating character of thought. Along with these topics the author directs attention to the need of public education which will enlarge life instead of perverting it. He also examines several more distinctly philosophical subjects. The group mind he believes to be an unnecessary notion; the traditional dichotomy between means and ends he regards as unfortunate; he exposes the error in utilitarian ethical theory, and shows the fallacy of urging any single good as the goal of ethics; and he discusses the nature of aims and of principles, the relation between desire and intelligence, and the relation of the present to "the future" in behavior.

In the fourth part of the book, the Conclusion, Professor Dewey considers conduct as a whole. After showing the really human and social nature of morals, he develops the idea of freedom as intelligent use of "the foresight of the future to refine and expand present activity." He discusses the good of activity, and the nature of evolution and progress. Progress is denied dependence on a remote dream-goal: "Progress is present reconstruction adding fullness and distinctness of meaning, and retrogression is a present slipping away of significance, determinations, grasp. . . . Unless progress is a present reconstructing, it is nothing; if it cannot be told by qualities belonging to the movement of transition it can never be judged. . . . The future is a projection of the subject-matter of the present, a projection which is not arbitrary in the extent in which it divines the movement of the moving present." And in realizing such progress, religion as a sense of the whole at once inspirits and liberates us.

Clearly this volume could as well be called "An Introduction to Social Philosophy" as "An Introduction to Social Psychology." The psychological portions are elementary, and contribute no new truths, unless "new" should be applied to the sound common sense displayed in perspective, illustrated for example by the truly reasonable use of such terms as sublimation and suppression. Most of the philosophy presented, too, will be familiar to students of Dewey. And organization of material, conciseness, and lack of repetition, are not always outstanding features. Yet the psychology and the philosophy are presented in simple language; and effective efforts against psychological mono-ideism and vicious philosophical entification, and in favor of educating instead of warping men's natures, are always timely. And now that philosophy has come to be subjected to criticism by psychopathology, Professor Dewey's view is of interest for being not evasion, not a shelter from "reality." On the contrary, as an effort to develop a working theory to effect adjustment to a complex social world, this philosophy is an outlook essentially adaptive and positive, that is to say, healthy.

W. S. Taylor.

JUVENILE DELINQUENCY. By Henry Herbert Goddard. 120 pages. Dodd, Mead & Company, New York, 1921.

This book reiterates much that has been said during the last few years concerning the importance of individual study before attempting to treat juvenile delinquents. A great deal of it is concerned with a description of the work of the Ohio Bureau of Juvenile Research. Considerable detail is to be found in describing this Bureau; and cases are cited showing the result of psychiatric rather than penal treatment. It is a book that should be widely read, as it thoroughly justifies such work as Dr. Goddard is doing, and will undoubtedly help introduce the gospel of scientific exactness in place of the old rule of thumb. A. WARREN STEARNS, M. D.

A GENERAL INTRODUCTION TO PSYCHOANALYSIS. By Sigmund Freud, LL.D. Authorized translation. With a Preface by G. Stanley Hall, President, Clark University. Boni and Liveright, New York. 8th Edition, 1921.

THE NEW PSYCHOLOGY AND ITS RELATION TO LIFE. By A. G. Tansley. London, George Allen and Unwin Ltd. New York, Dodd, Mead and Company. 1920.

These two books stand out in intellectual relief from the vapid background of current popular psychoanalytic publications. Written by authors whose calibre commands respect, they may challenge disagreement or invite hearing by virtue of a carefully thought out, if narrow, position, rather than by the arts of the literary demagogue, such as we have become accustomed to look for in literature of this type. No movement in psychology was ever so much caricatured as the Freudian movement. In days to come, when the young doctrine has grown to maturity, Professor Freud will perhaps come across some of these early pictures taken of him by admiring friends, and wonder whether he ever really looked like that. Certain it is, that in much of the Freudian literature it is difficult to recognize Freud.

It seems to the reviewer unfortunate that one who will undoubtedly be recognized by future generations as a genius should have chosen not to avail himself of the results of those who are engaged in parallel lines of work. Historically, no doubt, Freud is justified in claiming, as he does here and in the "History of the Psychoanalytic Movement," that it was his insistence on the factors of sex and the unconscious that, in the first place, brought down opposition upon him. Thus:

"By thus bringing into prominence the unconscious in psychic life we have raised the most evil spirits of criticism against psychoanalysis." (General Introduction, p. 246). "The aversion to this conclusion (as to the rôle of sexuality) is the most significant source of the opposition." In the experience of the writer, however, the opposition is now taking a different turn. "There is no philosophical science of therapy which could be made practicable for your medical purpose. Neither speculative philosophy nor descriptive psychology, nor that so-called experimental psychology which allies itself with the physiology of the sense organs as it is taught in the schools, is in a position to teach you anything useful concerning the relation between the physical and the psychical." (P. 6.) "What psychology has to say about emotions — the James Lange theory, for instance — is absolutely incomprehensible to us psychoanalysts and cannot be discussed." (P. 343.) Bitter may have been the earliest experiences of Psychoanalysis, but this deliberate rejection of the findings of generations of workers, some of whom have at least an equal right with Freud to the title of greatness, seems to savour of the fanatic rather than the seeker after truth. It is the refusal to profit by the accumulated results of tradition, upon which, after all, Professor Freud, with every other scientific worker, stands that converts the "Introduction" from a landmark in psychological literature into a piece of brilliant doctrinaire pleading.

In this way science is hindered not only by personal animosities, which seem to arise inevitably in such cases, but by a narrowness and a dogmatism which are bound to follow when the results of workers in the same field "cannot be discussed." An example is to be found in the discussion of errors. Most people now admit that the Freudian scheme is a brilliant addition to our knowledge of the causes of forgetting and of mistakes. Few of those who are thoroughly acquainted with the traditional psychology will admit the necessity for all of the Freudian superstructures in specific cases. "In the group based on forgetfulness (forgetting names or projects, mislaying objects, etc.) I cannot believe in any such (physiological) basis. (P. 41.) The doctrine of Reproductive Inhibition seems too reasonable and sane for any such summary disposal, and its inclusion, as a hypothesis which has established itself to the satisfaction of workers in the same field, would surely have strengthened Freud's position. At least a criticism of the orthodox position is called for. Some cases of forgetting are caused in the Freudian manner. It does not follow that Forgetting is so caused. A similar point might be made with reference to the doctrine of the wish in the dream. Many dreams express a wish. That is a point upon which Freud has insisted, and where his insistence has done us great service. But there are many apparent exceptions which can be explained in an entirely adequate manner by the traditional physiological psychology. In the place of an explanation which results naturally from the thought of two generations of competent observers, we are asked to believe that the exception proves the rule in a manner so terrifyingly complex that one is tempted to wish, in the interest of the rule itself, that the exception had not proved it at all.

Bulwarks of the Freudian scheme are the mechanisms and the parent complex. It is the opinion of the reviewer that the mechanisms, such as transference and sublimation, are not in themselves ultimate mental entities, but rather logical and clinical classifications. Whatever their value as such, they can only obscure the psychological issue unless their clinical and classificatory purpose is made clear. The writer believes that a more fundamental conception, which can be used to explain the Freudian mechanisms themselves, is to be found in physiological psychology under the name of the conditioned reflex. This view is put forward, for isolated cases, by Frink, Jelliffe and Kempf. Kostyleff states "dans la majorité des cas, l'hystérie se réduit a l'établissement de réflexes anormaux." Particularly useful in this conception for the explanation of the phobias and the resistances, which latter turn out, many of them, to be conditioned inhibitions of a type similar to those established by Pavlov. Very interesting, also, is Kempf's explanation of the early parental attachment on Conditioned reflex lines, which makes it possible to escape the unpleasant incest theory. The 'Oedipus Complex' theory seems typical of the whole work. True of many cases, it does not seem to hold for all. The names given above suggest that there has now been developed by other workers a more fundamental conception.

Mr. Tansley's book aims to present a "biological" view of the mind. The book is a solid, able piece of work, suffering, perhaps, by comparison with the brilliance of Freud, but gaining by its relative moderation. It exemplifies the pitfalls of writing off one's own subject. Thus one reads "his reasoning faculty is highly developed" (p. 10). "Fundamentally the human mind . . . remains a complex mechanism for initiating and carrying out specific conations." These statements will perhaps be revised in the new edition now forthcoming, but as they stand they have psychological implications which, to say the least, are old-fashioned in a book with this title.

Mr. Tansley has the master's ipse dixit for the statement that "much of the so-called experimental psychology is not investigation of the mind. It is largely concerned with the physiology of the special senses." This statement would seem, however, to argue a lack of acquaintance with elementary psychological tradition. Is not my visual perception of a table part of the content of my mind? The investigation of the way in which, through the organ of vision, certain types of consciousness are produced by certain stimuli surely belongs to psychology. It is only when we deal with processes apart from consciousness that we have pure physiology, in Tansley's sense. One must suspect a limited acquaintance with the "so-called experimental psychology" and its point of view.

It comes, further, with a shock of surprise to find that Mr. Tansley, as a biologist, should have accepted uncritically the Herd Instinct of Trotter. Nowhere is the question raised as to whether this so-called instinct is really an unlearned reaction. The trend of thought today is of course against such an instinct, comparable to the "self regarding instincts and . . . sex"

(p. 192). Every evidence, on the other hand, goes to show that the "herd instinct" is a learned reaction. Here again, the conception of the conditioned reflex is useful. "Suggestions arising from the herd," appear in many cases, to arise from a definitely learned reaction of the conditioned reflex type, as when the sight of a feeding pigeon becomes a conditioned stimulus for another pigeon to peck the ground, even though there is no food there. In this connection, the jungle book stories are, indeed, delightful reading, but Kipling hardly seems quotable in a psychological work as "one of our greatest modern exponents of the glories of herd life and the herd instinct."

In general, the book is the able, scholarly, expurgated work of a competent biologist writing on a psychological topic. The biological slant of the thought gives it a welcome coherence in these days of popular shoddy, and the moderate view taken upon some of the more extreme Freudian positions, as in the account of the dream, gives it a distinct place in the literature. The reviewer finds himself unable to agree with many of the Freudian positions, as laid down in the book, but finds it possible to believe that, with certain exceptions, it represents a first approximation to the form in which the Freudian tradition will ultimately take shape. Which is high praise for a book of this type. In interest of style it cannot compare with the other book under review, and indeed, the two present a curious contrast. Freud is brilliant, and writes about Freud. Tansley has attempted something more difficult. He writes about Freud and others. Careful and relatively moderate though his book is, one wishes that it had been written by Freud. GEORGE HUMPHREY.

ELEMENTS OF FOLK PSYCHOLOGY. Outlines of a Psychological History of the Development of Mankind. By Wilhelm Wundt. Authorized Translation by Edward Leroy Schaub, Ph. D., Professor of Philosophy in Northwestern University. London, George Allen & Unwin, Ltd.; New York, The Macmillan Company, 1921. Pp. xxiii, 532.

This treatise, typically Teutonic in its "verbigeration," was published first in 1912, and in English in 1916. Coming from the pen of the virtual father of modern, i. e., experimental, psychology, it were worthy of review even had it only small intrinsic value — but it has far more than that. It is a "synthetic synchronous survey" of the common conditions and the reciprocal relations of the phenomena of the folk-mind.

Besides two prefaces, an introduction, and an index, there are forty-six chapters of text. Wundt sees fit to divide the developmental period of humanity into four main periods: Primitive man, the totemic age, the age of heroes and gods, and the development to humanity. In a way, the book is propadeutic to a philosophy of history, which henceforth should consider "historical life from the point of view of the purposes that come to realization within it, and of the values that are created on the various levels of historical culture."

The work is far too extensive and touches on and discusses greatly too many topics for adequate review in this Journal. We may best be content with calling attention to the richness of its speculation and statement, somewhat different as they are from the animadversions of most anthropologists, who obviously are not psychologists as was Wilhelm Wundt, and analytic ad nauseam.

The first period's discussion, "Primitive Man," on the whole contains more psychology than do other parts of the book, particularly the chapters on "the beginnings of language," "the thinking of primitive man," and on his "intellectual and moral characteristics." The last-named chapter the author thus summarizes: — "The intelligence of primitive man is indeed restricted to a narrow sphere of activity. Within this sphere, however, *his intelligence is not noticeably inferior to that of civilized man.* His morality is dependent upon the environment in which he lives. Where he lives his life of freedom, one might almost call his state ideal, there being few motives to immoral conduct in our sense of the word. On the other hand, whenever primitive man is hunted down and hard pressed, he possesses no moral principles whatever. These traits are worth noting [however fragmentary] if only because they show the tremendous influence which external life exerts, even under the simplest conditions, upon the development of the moral nature."

One misses in the book the sort of opinion as to the mentality of primitive man such as Alfred G. Mayer and Franz Boas, for examples, have ventured to express. The work makes very interesting reading if one be patient with its racial mode of expression, and that although much of its material is anything but "original" with its famous systematizer.

GEORGE VAN NESS DEARBORN.

THE INTERFERENCE OF WILL-IMPULSES, with Applications to Pedagogy, Ethics and Practical Efficiency. By Abraham A. Roback. Psychological Monographs, Vol. XXV, No. 5, Whole No. 111, 1918. Pp. vii + 158.

In this important but relatively undeveloped field, Doctor Roback has concerned himself not with choices between alternates, but with our efforts to carry out both of two sets of impulses in a limited time. For such situations, the author has sought to answer the questions, How do rapidly alternating conscious impulses affect one another? And what conscious and unconscious phenomena result from the competition?

Mixed series of green dots and red crosses were exposed at systematically varied rates, and the subjects were instructed to respond to the crosses by a double up-down movement on a telegraph key, and to the dots by a double lateral movement on another key. Muscular responses and instantaneous introspections were recorded in detail. Having secured a great body of data in this way, the author concludes that "when a series of dissimilar acts is performed in quick succession, they are bound to exercise an inhibitory effect upon one another," and an increase of the difficulty of either of the two movements is found to make both movements more difficult. But the two sets of impulses affect one another unequally; in this simple quantitative work, it is the more pleasant (i. e., in this case, the easier) movement which is favored always. When the interference becomes acute, a law of retroactive inhibition emerges: It is the highest co-ordination which disappears first; then with further and accumulating confusion, the co-ordination degenerates through several stages until it reaches practically complete blankness of mind. (The introspective analyses here fit in with Münsterberg's action theory.) For every individual reagent, apparently, there is an optimal rate above which and below which he is apt to make mistakes of commission (filling in the gaps instead of waiting) and omission. And the individuals fall into rather distinct groups, with an intermediate class, the extremes of which are called dynamogenic and inhibitive, respectively; types often recognized in crises of daily life. Doctor Roback's detailed description of the behavior of these types must be of great interest to students of the differences between individuals.

Among other observations, are the tendency to equalize or compensate for errors; the continuation of processes through inertia; the grouping of mistakes, like the locomotive engineer who runs past several warning signals in succession; the individual rhythms of work reported, with the suggestion that such rhythms may themselves result from interference; and the exaggerated estimates of their own errors, the fatigue, and the imagery reported by the subjects.

Doctor Roback's study may suffer in the estimation of some because of the seemingly dualistic language employed. But the work represents a great amount of careful observation and use of data. It seems to the reviewer, however, that he does not prove the described phenomena to be the specific result of *interference*. But whatever be the explanation of the *decrease* of good work under the given conditions, the decrease and the conditions are facts of real behavior importance. And the tentative suggestions offered at the end of the study are interesting. The suggestions for education include points regarding the order in which tasks of differing ease should be taken up, and call attention to the stage to which training must be carried. For ethics (and for deterministic psychologists), there is argument for "the universal tendency to move along the line of least resistance," so that "the aim in ethical education is to see that the desirable idea shall be the effective one." And especially for personnel problems, both in education and in practical life, there arise questions regarding possible tests for an individual's susceptibility to interference, and questions regarding the possibility and the advisability of changing such *susceptibleness* through corrective measures. These questions urge further study, as the author says; but the present monograph is a valuable contribution.

We note with interest that it is to be followed by a second part dealing with the complex processes of writing lapses. W. S. TAYLOR.

THE DEFECTIVE DELINQUENT AND INSANE. By Henry A. Cotton, Princeton University Press, Princeton, N. J., 1921. Price, $3.00.

This book comes as the culmination of several years of work by Dr. Cotton, during which time he has maintained his position with enthusiasm, despite the expression of a good deal of doubt, as to his conclusions, by other workers. Dr. Myer's foreword is a frank and fair discussion of the book. He says: "To the lay reader I should give a warning not to sit in judgment over the physician who is conservative, and not to run at once to the man who promises marvels."

The problem of curing or relieving insanity is so baffling and discouraging that one instinctively reads claims of cure in a spirit of skepticism. Yet the general psychiatry in this book is conservative and sound. The author discusses the problem of the insane in a most comprehensive manner. He sees the fallacies of unwarranted claims by observers in other fields. This rather lends weight to his own conclusions.

As to the chapters which deal with focal infection, its relation to mental disease, and the cure of insanity through its treatment, one must know to believe. Dr. Cotton presents cases, a great many of which, as published in this book, cannot be refuted or torn apart. The inference, from the experience of others, is that the benefits from treating these conditions are overstated; and yet, in the last analysis, one must form an opinion as to this work almost entirely upon his opinion of Dr. Cotton as an observer. When we review the tremendous opportunity and need for aggressive research with the insane, and contemplate the general apathy in this field on the part of those having to do with the management of institutions, it seems to the reviewer that all should commend a piece of work like Dr. Cotton's.

A. WARREN STEARNS, M. D.

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ORIGINAL ARTICLES

THE PSYCHOLOGY OF POETIC TALENT

BY CARY F. JACOB
THE COLLEGE OF WILLIAM AND MARY

PROFESSOR FREDERICK CLARKE PRESCOTT of Cornell University has recently published through the Macmillan Company an intensely interesting and suggestive book, "The Poetic Mind" — interesting because of its content, suggestive because of its limitations as well as of its comparative breadth. Its excellencies are too numerous and too obvious to call for comment. They bespeak for the author the painstaking and thorough reading which he has given to the sources from which he has compiled the material for his analysis of the poetic mind; and yet his apparent thoroughness and his show of exhaustive study may easily become the means of misleading many who approach for the first time the psychological interpretation of literature, and whom faith in the divinity of the poet and in the miraculous nature of poetic vision may already have predisposed to forego giving to the content of the book the strictly logical examination every work purporting to be in any way scientific should receive.

Ruskin in "The Pathetic Fallacy" classifies poets as being of four orders: "The men who feel nothing, and therefore see truly; the men who feel strongly, think weakly, and see untruly (second order of poets); the men who feel strongly, think strongly, and see truly (first order of poets); and the men who, strong as human creatures can be, are yet submitted to influences stronger than they, and see in a sort untruly, because what they see is inconceivably above them. This last is the usual condition of prophetic inspiration." Says Professor Prescott in substance: The state of mind of the great poets when producing their best work is identical with that of the prophet when receiving a vision; therefore, poets of the first order and the prophets should be classed together as the seers, the see-ers of visions, the blinded by too much light, who forced to speak, are yet able to speak only symbolically and darkly; both prophet and poet are inspired, because each draws from the same divine, invisible fountain-head of the unconscious. This hypothesis Professor Prescott brings forward after having consulted Edmund Spenser, Philip Sidney, Goethe, Poe, Byron, Shelley, Keats, Lamb, Wordsworth, Carlyle, Lowell, Emerson, Longfellow, Swinburne, and a host of others who with them give testimony in symbolic language to the faith which they have in the divine origin of the truth the poet is called upon to reflect. It may be, as Professor Prescott says that it is, a great convenience to be able "to form and to state conclusions without proof"[1]; nevertheless, there are some minds so constituted that they will not accept hypotheses as infallible unless accompanied by proof, and, when proof is not forthcoming, cannot refrain from inquiring: Since when has the dissemination of an opinion among even so illustrious a succession as that mentioned above in any wise guaranteed the validity of the aforesaid opinion? If an appeal to the authority of great names had amounted to proof, the spherical nature of the earth would have remained unestablished long after Magellan had succeeded in effecting a passage to the East Indies and in returning to Spain by way of the Cape of Good Hope.

If this were the only fallacy involved, I might be content to let the whole pass unchallenged; but, when Professor Prescott goes on to refuse to consider as of like origin the inspired work of the great poets and the work of the minor poets, and to combine with the latter what he regards as the uninspired portions of the work of the great poets, then I am constrained to inquire by what principle he has made his division. Like Gideon at the ford of the Jordan, I am in need of a shibboleth. Moreover, how is any lover of poetry to judge of the inspiration of a given passage (that is, as to whether it originated in the conscious or in the unconscious), when even the mystics themselves meet with insurmountable difficulties in attempting to determine what portions of their visions are true and what false? Juliana of Norwich, for instance, never dared affirm until the test of succeeding events had verified them in what light her *showings* were to be received.

Those who believe in visions face exactly the same dilemma as those who believe in ghosts, the same dilemma which Hamlet faced when he reasoned:

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[1] Frederick Clarke Prescott: "The Poetic Mind," p. xi (Macmillan).

> "The Spirit which I have seene
> May be the Divell, and the Divel hath power
> T'assume a pleasing shape, yea and perhaps
> Out of my weaknesse, and my Melancholy,
> As he is very potent with such Spirits,
> Abuses me to damne me. Ile have Grounds
> More Relative then this."

And so Hamlet devised the surer test which he and Horatio could apply together in detection of the guilty king.

> "Give him needful note,
> For I mine eyes will rivet to his Face;
> And after we will both our judgments joyne,
> To censure of his seeming."
>
> "The Play's the thing,
> Wherein Ile catch the Conscience of the King."

To an age afflicted with unbelief and with psycho-analysts, the spirits which visited Caedmon, Martin Luther, and John Bunyan reveal a very different truth from that which these men conceived as revealed to them. When one remembers the innocent nature of the sins of which Bunyan stood self-convicted, and when one remembers, too, that Luther saw no more devils after he took to wife the nun Katharina von Bora, then one is forced to assume a somewhat skeptical attitude toward the entire subject of spiritual visitations. What might have been the result had Saul of Tarsus in his youth been less studiously and more matrimonially inclined, who can say? As for poor, vision-haunted Blake and for Charles Lamb, no one acquainted with the biography of either need seek further for a solution to the problem than to recall that there were times in their lives (and that, too, when the wind was southerly) when they hardly knew a hawk from a handsaw.

As for the Brownies and the other supernatural agencies which took over the burden of composition for Robert Louis Stevenson,[2] they are about as real as the little girl who wrote "The Young Visitors" for Sir James Barrie. Authors, alas, have their tricks and their manners; and they have, too, a sense of humour and a strong liking for a good joke. They are, for the most part, an unscrupulous lot, concerned primarily with producing effects and knowing full well that readers like to be imposed upon and given the thrill of a mystery. Who can say when an author speaks through his characters to what extent any character is reflecting the author's opinion? Furthermore, if an author were concerned with disclosing scientific truth, would he choose as his medium the intricacies of poetry or of prose fiction? Well, hardly. When he turns to poetry, he does so because he wishes to be relieved of commonplace accuracy, because he can express symbolically disagreeable facts which he would not dare reveal in the nakedness of plain prose, and because by resorting to a traditional form and a traditional mode of expression he can stir the imagination of his readers to the point at which suggestion becomes the most potent of forces.

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[2] "A Chapter on Dreams."

In contrast with what Stevenson has to say in his "Chapter on Dreams" must be considered the account which Graham Balfour gives of the composition of "Dr. Jekyll and Mr. Hyde." I present it here for inspection[3]:

"A subject much in his thoughts at this time was the duality of man's nature and the alternation of good and evil; and he was for a long while casting about for a story to embody this central idea. Out of this frame of mind had come the sombre imagination of 'Markheim,' but that was not what he required. The true story still delayed, till suddenly one night he had a dream. He awoke, and found himself in possession of two, or rather three of the scenes in *The Strange Case of Dr. Jekyll and Mr. Hyde.*

"Its waking existence, however, was by no means without incident. He dreamed these scenes in considerable detail, including the circumstance of the transforming powders, and so vivid was the impression that he wrote the story off at a red heat, just as it had presented itself to him in his sleep.

" 'In the small hours of one morning,' says Mrs. Stevenson, 'I was awakened by cries of horror from Louis. Thinking he had a nightmare, I awakened him. He said angrily: "Why did you wake me? I was dreaming a fine bogey tale." I had awakened him at the first transformation scene.'

"Mr. Osbourne writes: 'I don't believe that there was ever such a literary feat before as the writing of *Dr. Jekyll.* I remember the first reading as though it were yesterday. Louis came downstairs in a fever; read nearly half the book aloud; and then, while we were still gasping, he was away again, and busy writing. I doubt if the first draft took so long as three days.'

"He had lately had a hemorrhage, and was strictly forbidden all discussion or excitement. No doubt the reading aloud was contrary to the doctor's orders; at any rate Mrs. Stevenson, according to the custom then in force, wrote her detailed criticism of the story as it then stood, pointing out her chief objection — that it was really an allegory, whereas he had treated it purely as if it were a story. In the first draft Jekyll's nature was bad all through, and the Hyde change was worked only for the sake of disguise. She gave the paper to her husband and left the room. After a while his bell rang; on her return she found him sitting up in bed (the clinical thermometer in his mouth), pointing with a long denunciatory finger to a pile of ashes. He had taken the wrong point of view, that the tale was an allegory and not another 'Markheim,' he at once destroyed his manuscript, acting not out of pique, but from a fear that he might be tempted to make too much use of it, and not rewrite the whole from a new standpoint.

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[3] Graham Balfour: "The Life of Robert Louis Stevenson," Vol. II, p. 15 (Charles Scribner's Sons).

"It was written again in three days ('I drive on with Jekyll: bankruptcy at my heels'); but the fear of losing the story altogether prevented much further criticism. The powder was condemned as too material an agency, but this he could not eliminate, because in the dream it had made so strong an impression upon him.

" 'The mere physical feat,' Mr. Osbourne continues, 'was tremendous; and instead of harming him, it roused and cheered him inexpressibly.' Of course it must not be supposed that these three days represent all the time that Stevenson spent upon the story, for after this he was working hard for a month or six weeks in bringing it into its present form."

To this add a second quotation from the same source[4]:

"It appears that besides *Dr. Jekyll and Mr. Hyde* there is only one other plot thus furnished [in dream] which he ever actually completed. This was *Olalla*. . . . Beside the account in *Dreams* must be set Stevenson's own statement that his invention of Felipe was in part deliberate, and it is impossible now to say whether (if the resemblance was more than accidental) the incident came back to the author's mind in his sleep or in his waking hours."

Yet of this very story, which may or may not in part have been revealed to him as a dream, he wrote to Lady Taylor[5]:

"The trouble with *Olalla* is, that it somehow sounds false. . . . The odd problem is: What makes a story true? *Markheim* is true; *Olalla* false; and I don't know why, nor did I feel it while I worked at them; indeed I had more inspiration with *Olalla*, as the style shows. I am glad you thought that young Spanish woman well dressed; I admire the style of it myself, more than is perhaps good for me; it is so solidly written. And that again brings back (almost with the voice of despair) my unanswerable: Why is it false?"

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[4] "Life of Robert Louis Stevenson," Vol. II, p. 18.

[5] "Life of Robert Louis Stevenson," Vol. II, p. 19.

Now combine with this the following quotation from Stevenson's "A College Magazine":

"I kept always two books in my pocket, one to read, one to write in. As I walked, my mind was busy fitting what I saw with appropriate words; when I sat by the roadside, I would either read, or a pencil and a penny version-book would be in my hand, to note down the features of the scene or commemorate some halting stanzas. Thus I lived with words. And what I thus wrote was for no ulterior use, it was written consciously for practice. It was not so much that I wished to be an author (though I wished that too) as that I had vowed that I would learn to write. That was a proficiency that tempted me; and I practised to acquire it, as men learn to whittle, in a wager with myself. Description was the principal field of my exercise; for to any one with senses there is always something worth describing, and town and country are but one continuous subject. But I worked in other ways also; often accompanied my walks with dramatic dialogues, in which I played many parts; and often exercised myself in writing down conversations from memory."

At the risk of becoming tedious, I must quote again from Balfour,[6] because the incident here recorded illustrates as forcibly as anything could the delight which the romantic nature takes in the perpetration of a hoax:

"Meeting once more in their early haunts, the old friends revived many memories. One trivial reminiscence of this occasion is yet so characteristic of Stevenson, and so illustrates the working of his mind, that it may find a place here. The two friends, painter and writer, both possessing a fine palate for certain wines, had always laughed at one another's pretensions to such taste. In 1875 or 1876, soon after Mr. Low's marriage, he and his wife had gone to dine with Stevenson at the Musée de Cluny in the Boulevard St. Michel. Mr. Low hesitating for a moment in his choice of wine, Stevenson turned to Mrs. Low, and on the spot made up and elaborately embellished a story of how her husband had once gone with him to dine at a restaurant, and had tasted and rejected every vintage the establishment was able to offer. At last — so the tale ran — the proprietor confessed that there was one bottle even finer in his cellar, which had lain there forty years, but that he was ready to give it up to such a master, although it was like surrendering a part of his life. A procession was formed, first the proprietor, then the cellarman, then the waiters of the establishment, and they all went down to the cellar to get the famous bottle. Back they came in the same order with the priceless treasure borne tenderly in the arms of the cellarman, a man with a long beard down to his waist, who had been so much in the cellar that the light made him blink. Slowly and reverently they approached the table, and then they all sighed. The bottle was deliberately and ceremoniously uncorked, and the wine poured into small glasses, while the waiters looked on with breathless reverence. The two connoisseurs touched glasses and slowly carried them to their lips. There was absolute silence. All eyes were upon them, and when they drank deeply and expressed their satisfaction, the whole establishment heaved a sigh of relief.

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[6] "The Life of Robert Louis Stevenson," Vol. II, p. 22.

"Mrs. Low now reminded Stevenson of this story, and he, declaring it was no *story*, but an historical account of what actually happened, repeated it word for word as he had originally told it. When he came to the end he added, 'And the cellarman, overcome with emotion, dropped dead.' As he said these words, he saw by his hearers' faces that this was a divergence from the original tale, and added quickly, 'That about the cellarman is not *really* true!' "

If the poet does bring any part of his dream life into his conscious life, he can offer the dream experience as truth only after he has subjected it to the criticism of his waking hours, unless, as was the case with Poe in "Ulalume" and with Coleridge in "Kubla Kahn," the poet presents the content of the dream for nothing more than it really is — pure dream. Let me point out that "The Ancient Mariner," a second poem which may be considered as having its source in a dream, did not originate with Coleridge. It was the dream of one of his friends. Nevertheless, Coleridge espied in the chaos of what his friend could remember the possibility of constructing from it a poem of the supernatural. Not, however, until Wordsworth gave point to the plot by suggesting the killing of the albatross did the whole assume any degree of artistic completeness. Only those who can thus subject their thoughts, waking or sleeping, to some such criticism as Coleridge gave to this variously derived material or as Stevenson invariably gave to his can produce even the jingle of a Limerick. To be sure, many writers do get from dreams suggestions which they later work into artistic form; but that they actually receive the finished product through a dream or from any supernatural source whatsoever, I entertain the most serious doubt.

To say that the minds of prophet and of poet function similarly and that, therefore, the product of the poetic mind is divine and above comprehension is only to avoid the issue and to leave the entire subject unexplained, is to prove nothing; but to attempt to deduce from the etymology of words anything more than the concept which these words represented to the group among which the words originated is, in this instance particularly, to go very far astray. By the etymological method of procedure undoubtedly it can be established that primitive peoples look upon the prophet and the poet as being one and the same, that they likewise include the idiot and the lunatic in the same category of sacred personages, and that they accept the words of all four (prophet, poet, idiot, and lunatic) as impregnated with hidden meanings of divine significance. Surely every one recalls the years of wandering among the Indians which fell to the lot of Joaquin Miller during his period of feeblemindedness, and recalls, too, the solicitude for his welfare which the different tribes displayed so long as they thought that his presence gave them good luck. To primitive peoples both the echo and the dream are held to be as supernatural manifestations attesting the existence of the soul as distinct from the body. In short, both savages and people in the mass know precious little regarding the scientific nature of phenomena of any type; and what they either think or have thought should be given about as much weight in the settlement of a psychological problem as would be given to their opinion if a physicist had under consideration the refraction of light.

Thousands on thousands of men dream dreams; but only those who go forth to proclaim their dreams as a message from the godhead are exalted with the title of prophet. Of the latter which are to be venerated and which execrated? Mohammed saw visions, as, too, did Joseph Smith and Mary Baker Eddy. Yet some there be who whisper that Mohammed, like great Cæsar, was subject to the falling sickness, and that Joseph Smith and Mary Baker Eddy were not wholly different in their general psychology. Without the aid of Urim and Thummin I despair of seeing the light, and, therefore, leave the matter to the syphilists and other students of pathological conditions.

Seriously, if one accepts visions at all, how is one to distinguish truth from error, revelation from sheer fraud? Why should what a man sees when his faculties are overpowered or benumbed be of greater value than what that same man sees when he is in full possession of them all! Why should surgeons find it necessary to have witnesses present when patients are given an anesthetic (that is, when the patients are in an artificially provoked state of vision or dream) if not because the reports of those patients as to what they have undergone are frequently as remote as possible from fact? If the prophet, the seer, the dreamer, the day-dreamer, the anesthetized patient, and the poet are in the same or related states, why should the report of the one be regarded as any more veracious than that of the other? To attempt to ally them does not lift the poet to the dignity of the prophet or make the poem in any way more divine. One should never forget that, although the dream state is as yet only imperfectly understood, what is understood about it leaves very little room for belief in the supernatural agencies involved. However, even if I believed in the supernatural character of visions, I should still doubt the possibility of accuracy on the part of either prophet or poet when he begins to report upon the state of his mind in receiving the vision, because I fail to comprehend how a man in "the usual condition of prophetic inspiration" is in any condition either then or later to know what his personal reaction was at the moment when his entire being was centered, not upon himself, but upon the perception of influences inconceivably above him. Therefore, I am not satisfied with the account which Professor Prescott gives of the poetic mind, especially as in addition I fail to see in what respect the poetic mind, as Professor Prescott presents it, differs from the creative mind in general or from the unconscious mind in particular.

If poetry, as Shelley believed, "acts in a divine and unapprehended manner, beyond and above consciousness," then all attempts to understand the working of the poetic mind must be futile. If, however, the working of this type of mind is not different from the working of other types of mind, but different only in the extent and degree of intensity in the powers of observation, recall, association, and symbolic expression, then the functioning of the poetic mind can be subjected to the same sort of analysis as is applied to the functioning of the other types of mind, and can be brought to take its place in a system in which there is no inherent duality such as is implied in the terms *comprehensible* and *incomprehensible*, *natural* and *supernatural*, *human* and *divine*. Poetry as a physical phenomenon appearing in a concrete, physical world is to that extent within the domain of physical science, and to that extent challenges the scientific investigator, even though poetry does involve a psychic principle or force; for psychic principles have become far more readily comprehended as human knowledge regarding purely physical aspects of mind has increased. I for one am not willing to resort to the mystical or the supernatural as a possible explanation so long as psychic phenomena can be shown to be in line with other facts of the total human experience, or so long as psychic phenomena give promise of being better understood as our knowledge of the total human experience is enlarged. Although there may be as yet no complete scientific explanation for them, there is no reason to think that an explanation may not ultimately be reached or that "the residuum of ignorance may not be so greatly reduced as to leave to a purely speculative philosophy very little doubt as to the *why* or the *whither*." In this faith, therefore, I can set about showing what physical principles are involved in the composition of poetry, and, in addition, what psychic principles are at least partially to be interpreted in physical terms.

II

Randolph S. Bourne, writing in the *New Republic* of March 13, 1915, gives a summary of the philosophy of John Dewey which has helped me to clarify my own thought as to the relation of the creative mind to other types of mind. His words are these:

> "The mind is not a looking-glass, reflecting the world for its private contemplation, nor a logic-machine for building up truth, but a tool by which we adjust ourselves to the situations in which life puts us. Reason is not a divinely appointed guide to eternal truth, but a practical instrument by which we solve problems. Words are not invariable symbols for invariable things, but clues to meanings. We think in meanings, not in words, and a meaning is simply a sign-post pointing towards our doing something or feeling something or both. The words are the handles by which we take hold of these meanings which our intercourse with people and things presents to us. Our life is a constant reaction to a world which is constantly stimulating us. We are in situations where we must do something, and it is for the purpose of guiding this doing from the point of view of what has happened or what is likely to happen, that we think. We are not bundles of thoughts and feelings so much as bundles of attitudes or tendencies. We act before we 'perceive'; the perception is only important as it enables us to act again. We remember what we use, and we learn what we occupy ourselves with. Our minds are simply the tool with which we forge out our life.
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> "If we are to live worthily and happily, it is not necessary that we should 'be' anything or 'know' anything, so much as that we should be able to meet the situation in which developing life places us, and express our capacities in our activity. Our social problem as well as our personal problem is to understand what we are doing."

If this conception of the mind and its working is correct, then I am justified in saying that the creative mind, or rather the creative state of mind, is not different from other minds or from other states of mind. The energy produced by the chemical reactions in the body is transmitted through the brain, harnessed, and put to account in digging a ditch, in building a bridge, or, lacking a physical equivalent in work, in forging a dream, or in painting a picture. Thinking in meanings, one man will express himself in the symbols of sculpture, another in the symbols of painting, another in the symbols of music, another in the symbols of language — that is to say, in words. The product is simply the result of an attempt on the part of an unusually active mind (perhaps in some instances of an overstimulated mind) to get rid of an accumulation of energy which must find a vent, must work itself out. When, therefore, the mind is checked in one or more of the possible outlets, thought turns into whatever channel it finds unobstructed.

Because they are not "bundles of thoughts and feelings so much as bundles of attitudes or tendencies," men express themselves in the work for which they are physically equipped, provided their environment makes this course possible. The mind, let me repeat, is the tool with which we forge out our life. Because the collecting of customs and the superintending of public works did not exhaust his vitality, Chaucer sought relief in his *bokës*; because the drudgery of the farm did not exhaust his, Burns turned alternately to poetry and to drink; because his duties as clerk in the South Sea House did not exhaust his, Charles Lamb found further occupation in the "Essays of Elia"; and, because other forms of activity were denied to Stevenson and to Swinburne, their all went into the creation of volume after volume of different types of literature; whereas humbler personalities with less bent to their tendencies have, after working hours, occupied themselves with a game of golf or of cards, or with the more stimulating activity of a tilt with their wives. We must "be able to meet the situation in which developing life places us, and express our capacities in our activity," or we perish, consumed by the fire within.

Often, however, the mind is unaware of its own tendencies. Then by the method of trial and error, it must take stock of itself. Thackeray and Ruskin were painters before they settled definitely to literature. Richard Mansfield sang in opera before he became an actor. Thomas Carlyle tried more than one profession only to abandon them all for hack writing. On the other hand, a few minds are of such unusual capacity joined to so varied a physical endowment as to make possible success in many fields. Milton could be musician, statesman, essayist, and poet. William Morris and the Rossettis could work in several forms of art. Goethe was a man of such unusual natural gifts that he could distinguish himself as statesman, scientist, and author, and could still have left for squandering more energy than half a dozen ordinary men appear to possess. Most remarkable of all is the breadth of activity which Leonardo da Vinci displayed. Think of attainments to be catalogued under ten different heads and to which he could add as of possible consideration his worth as sculptor and painter!

The human body must transform its energy into work through both the muscles and the brain. Man learns by what he busies himself with; and, in so far as it is possible for him, he busies himself with what interests him — that is, either with what he is especially well equipped for physically or with what his group holds to be of value. One type of mind turns to plowing, another to science, and another to art; yet the type which turns to art is likely to seek this direction because there appears in the life some special condition inoperative among those who are satisfied with the usual modes of expression. But more of this later.

Suppose a scientist to be at work upon some problem. To its solution he brings his entire mental equipment. He assembles his material bit by bit until through cumulative experience he is able to grasp the relation of part to part; and, lo, he has made a discovery. If this realization of the connection between the parts comes as the sudden breaking down of mental barriers or as the fusion of ideas held in his unconscious mind (as when a man while asleep works out a mathematical problem upon which he has been employed during his waking hours), does he think that, therefore, he has received a divine revelation? The mind has simply learned to handle the material with which it has busied itself. If a poet or a novelist, though working in a type of material somewhat different from that of the scientist, is able either by degrees or suddenly to see the relation between the parts and to put that relation into words, has a power outside of him laid hold upon him and made him a medium for the transmission of the thought of the gods! I think not. The mental processes of the author and of the scientist are the same. Because of the greater plasticity of the material in which the author is working, he may be able to grasp the relations with more apparent immediacy and to press his meaning with comparatively little effort into the traditional mould; but, be it remembered, the experiences of a lifetime and the skill acquired through much reading and through frequent practice in writing are responsible for the seeming suddenness with which the final connections are made. The scientist must work with the greater care and accuracy because he is always called upon to verify his results, whereas the writer of fiction and the poet are not. It is sufficient for the latter two if they can impart verisimilitude to their products. The important thing for them is to get their thought expressed so pleasingly that it may pass without challenge. The scientist persuades through the force of his logic, the poet through the spell which beauty holds for the senses; yet both reach their conclusions through the same mental processes. Even the mathematicians first assume facts, and then use these assumptions to demonstrate further relations. In this they are only following the same method as that of the poets when the latter attempt the interpretation of human relations.

It seems to me, then, that Professor Prescott gives an account, not of the poetic mind, but of general aspects common to all creative minds. During the process of incubation when thought is concerning itself almost wholly with meanings, the working of the various types of mind appears to be more or less identical. Divergencies begin to arise only when the time has come for expressing the meanings in appropriate symbols. Not until this point is reached must the thinker determine whether the results are to be given in terms of scientific discovery or as a picture, a statue, a work of prose fiction, a symphony, or a poem. A given meaning may often be susceptible of embodiment in more than one form. Every one is doubly familiar with the post-Homeric legend of the Laocoon because it is loftily rendered in both marble and verse. A more recent instance is the difference in the challenge to the imagination which the theory of evolution brings when subjected to the different symbols of "The Origin of Species," "Each in His Own Tongue," and "Back to Methuselah." Many artists work out their conceptions in various trial forms before they finally hit upon the one mode of expression which they regard as most suitable. Here again Goethe is a notable example; but he is not unlike many others in having had his original conceptions expand as he shaped them to his purpose. Were there not this adaptation and growth of material to meet the demand of the selected form of expression, no one could ever work out a play; for, unless the playwright has before him from the very beginning how his plot is to end, there is small likelihood of its doing more than break off long before it has come to an end. Shakespeare had to fit his conception of the noble young Hamlet to the framework already set up by Saxo Grammiticus and by the hypothetical "Revenge of Hamlet," and had to shape all this to the requirements of the five-act play in blank verse. At point after point he deliberately touched up the work of the others in exactly the same way that Wordsworth and Coleridge and Dorothy Wordsworth came to pool their resources for critical invention. It is surprising how often the full beauty of the final product is for all these authors the direct result of the felicitous interpolation of a magical word or a phrase.

Following the line of reasoning suggested by Dewey's conception of the mental processes, I am led finally to the conclusion that the dream state is not so different from the waking state as some psychologists would have us believe. In sleep the mind is shut off from most of the external stimuli to which it is exposed during the waking hours; yet in sleep the somatic stimuli often continue. Tendencies which have been shunted to the mental siding during consciousness roll out once more upon the main track, and the mind now occupies itself with them. We continue to think in meanings, not in words; and "a meaning is simply a sign-post pointing towards our doing something or feeling something or both." In the dream we act and we feel, though the action and the feeling express themselves only in the symbols for which words themselves are in turn but symbols, but clues to meanings. Here, too, "the mind is not a looking-glass reflecting the world for its private contemplation, nor a logic-machine for building up truth, but a tool by which we adjust ourselves to the situations in which life puts us. Reason is not a divinely appointed guide to eternal truth, but a practical instrument by which we solve problems." I dare venture to add that neither is the unconscious a divinely appointed guide to eternal truth, but a part of our total experience now become a practical instrument aiding us in the solution of the problems presented by our multiplex personalities. In the waking state both the conscious and the unconscious are in operation. In the dream state, the unconscious holds sway; but note that it was only after Stevenson had for a long time occupied himself with the thought of the duality of human nature that the dream of "Dr. Jekyll and Mr. Hyde" came to him. His mind had unconsciously solved its problem.

Usually an artist when at work upon some meaning which he wishes to render in symbols shuts himself off mentally from external stimuli and forces into the center of attention whatever he feels to be associated in any way with the idea to be expressed. Thousands of thoughts may arise; but he rejects all which do not serve his purpose. In the state of dreaming or of vision, there is on the contrary no rejection of the elements which find their way into the chain of associations. Therefore, these unassorted thoughts are worthless to the artist unless he can recall them during the waking state and can subject them to the criticism of reason, unless he can make them fit as a part into some scheme of things. Stevenson burned his first draft of "Dr. Jekyll and Mr. Hyde" and then proceeded to work the whole plot out upon a logical basis. Coleridge wrote "Kubla Kahn" down as nearly as possible like what he had retained of his dream experience. Hence the poem ended by being just what it was in its original form — a fantasy, a succession of beautiful but meaningless pictures, a product unrelated to life. Here, then, we have presented to us at least two ways in which dream thought can be transferred into conscious thought and can be made use of in art. In the same manner certain experiences taken from consciousness can become a part of the fabric of the dream; but in the dream there is lacking the corrective principle which takes into account time, space, and social obligations or any other restraining force which could give to the thought even an approximation to the logic of the waking state.

If the critical powers of the mind are reduced almost to the supineness attendant upon the dream, the absence of fixed attention causes the subsidence of the immediate surroundings, and there ensues a state so closely akin to real dreaming that it is known as the *day-dream*. Similarly narcotics of all kinds have ultimately the effect of reducing the activity of certain functions of the mind and of heightening others until a condition of complete insensibility follows. Before this point is finally reached, however, the mind is often stimulated to an unusual brilliancy that is carried over into the dream and that gives to the dream symbols a vividness which sometimes enables the narcotized person to recall them quite clearly when he awakens. In extreme cases the impressions received during sleep, whether natural or whether produced artificially, take so firm a hold upon the mind that they cannot be shaken off; and the person, now unable to adjust himself to his environment, becomes more or less permanently deranged. Because the artist is usually by temperament unfitted to enjoy even a tolerable degree of satisfaction in the world as it exists, he is forced to create through his imagination an environment suited to him, an environment in which he can find, if not contentment, at least a normal mode of release for his energies. In doing this, he is providing himself with exactly the same type of outlet which all minds receive through the dream.

Hence it comes about that a tragically large proportion of artists have been addicted to the use of stimulants of one sort or another. Recognizing the creative state of mind as at once pleasant and altogether desirable, they have sought to induce it artificially when it failed to appear at their bidding. Yet so highly excitable and unstable nervously are many of them that, as was the case with Poe, a single glass of wine is sufficient to arouse their brains to so great activity as to sweep before consciousness in torrential succession the flood of associations stored up during a lifetime of voluminous reading and of instant response to everything in progress around them. For some persons a similar degree of nervous reaction can be brought on either by overeating or by fasting. Shelley could work himself almost into a frenzy by gorging his stomach and then stretching at full length before the fire. The ascetic has usually followed the opposite method of fasting; but in both cases the result is the same, although the second method has not often given rise to literature, but simply to vision, for the very good reason that the faster usually has left so little strength that he cannot collect his thoughts, much less reduce them to writing. The great artists, however, although at times they have made use of these means to arouse themselves to the act of creation, have not had to depend wholly upon them. If the creative mind has not its powers of attention so well under control that through protracted periods of time it can centre all its faculties upon the task set before it, then it can never work its ideas into any form of symbolic expression.

That even men of marked genius must await the coming of what is commonly known as *inspiration* is a well recognized fact. Yet in this tardy troubling of the spiritual waters there is no mystery. As I have stated repeatedly, hour by hour the body goes on storing up energy until finally the system becomes charged to capacity. This energy must now find release through sex indulgence or through some other form of activity. Just before the discharge, the nerves are under so high a degree of tension that the mind is exceedingly active — so active that it performs in a flash feats which at other times it can accomplish only by the greatest amount of effort, or perhaps not at all. The thoughts which arise during this period are often so vivid and so intense that they last long after the sex-storm has spent itself. But, whether they do continue or not, if they are to prove of value to the world, the mind must go on occupying itself with them and subjecting them to augmentation and revision until they are given form. Sometimes this process is a matter of minutes, sometimes of years; but that questions of sex are involved is evident from the fact that, as the flood-tide of passion subsides, artistic expression becomes less and less a necessity until it finally ceases. The poet in most men dies young.

Given, then, a mind stimulated to action for which it can find only insufficient outlet through the usual channels, where will this mind turn for expression? Why will it choose one form of activity in preference to another? To these questions partial answers are to be found in considerations of personal physical equipment and of social inheritance. Of course, much more than these two elements may be involved; but for the purposes of this summary they must be neglected, as, too, must many aspects of physical equipment and of social inheritance.

The matter of physical equipment, or *native capacity* as it is sometimes called, is more readily grasped if it is approached through an analysis of the bases of musical talent and is then carried further to include those of poetic. A thorough understanding of the two will make explanation unnecessary regarding the other forms of art and of science. The discussion of genius can be omitted altogether, because genius is nothing more than talent raised to the *n*th power.

Modern European music is built from tones of different pitches so selected as to produce what is known as a *scale* and as to be capable of harmonious combination into chords when several of the related tones are sounded simultaneously. These tones must further possess in themselves certain characteristics which enable the listener to distinguish the sound of one instrument from that of another or of one voice from that of another. This peculiarity of tone is sometimes spoken of as its *color*. A third requirement of music is rhythm. This I have defined elsewhere[7] as marked by "the return at sensibly equal time intervals of the phenomenon which renders the division of time perceptible to the hearing or to the muscular sense." What one feels in the return of the accented and the unaccented notes in music is felt in response to their rhythmic succession. This rhythm, the oldest as well as the most fundamental component of music, existed at first independent of pitch and of tone-color, just as we often still hear it employed in the click of the castanets and in the beat of the drum. Even though many of the most primitive savages invent rhythms of their own and respond immediately to the rhythms of others, there are numerous highly civilized persons who, if they possess a feeling for rhythm at all, possess it only to an extremely limited extent. They are congenitally unequipped to enjoy or to produce this fundamental of music. Still other men are lacking the sense which enables one to hear and to reproduce pitches. Others are equally deficient when it comes to recognizing and reproducing tone-colors. In order to express himself musically a man must be endowed with all three of these senses. No one can find through the medium of music an outlet for his energies unless his nerves and his muscles are of the kinds which will receive and will reproduce rhythms, pitches, and tone-colors. For one to be a composer, in addition to possessing this nervous and muscular equipment, one must be able to realize the meaning of certain of one's experiences and then be able to translate that meaning into tonal symbols so combined as to form a significant whole, this process thus giving the work-equivalent for one's nervous reaction. Many men who have the physical equipment for producing music yet lack the incentive to express themselves in musical terms; but the composer is the man, who, finding his energy obstructed in its effort to expend itself in other ways, is still so happily endowed as to be capable of giving vent to it through the employment of the three components which I have just noted as being the sound symbols which music turns to account. Verse is akin to music in that to express meanings verse, too, utilizes rhythm and pitch and tone-color, but with this difference — the rhythm, the pitch and the tone-color of verse are embodied in the vowel and consonant successions of words. As I have already stated, the pitches used in modern European music are definitely fixed. They bear to one another invariable mathematical relations. In contrast to this, in modern verse the pitches employed are entirely too indefinite to form a scale, whereas the tone-colors are fixed to a surprising degree in the vowel and consonant combinations of words. Therefore, through the successions of words, which are really nothing more than sound symbols of a special type, in verse meanings can be represented with an accuracy totally impossible to music. Words are thus made the handles by which auditors can take hold of the thought which the poet wishes to convey. "As far, then, as structure is concerned, verse is that form of tonal art which makes use of syllables of different intensity, length, and tone-color, and of indefinite and varying pitches, when combined with periods of silence, to establish rythmic patterns which are felt to maintain to one another temporal relations such that each successive pattern takes its place in a general time scheme, sensibly uniform throughout, and contributes toward an impression of unity and completeness as regards the whole."[8]

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[7] "The Foundations and Nature of Verse," p. 77 (Columbia University Press).

In the first place, therefore, because the poet expresses himself through the medium of verse, he must be a person physically so equipped that he can transform his experiences into words arranged in rhythmic patterns. He must have a feeling for the significance of words if he is to select just those which will symbolize his meaning and will at the same time help to carry forward the rhythmic pattern which he has determined to use. However, the writing of verse requires much more than a faculty for simply stringing words together. Because meanings are to be expressed, just as is the case with the musician, the poet must be endowed with the nervous and muscular equipment to perceive and to reproduce several types of auditory phenomena which his acquaintance with the works of other poets has taught him are a suitable medium for symbolizing his thought. All forms of elevated verbal expression have many qualities in common with poetry, but the distinguishing trait of the latter I have disclosed in my definition of verse. Nevertheless, although the ultimate value of poetry (in other words, its *quality*) is determined by resort to criteria different from those to be derived from the study of mere perfection of form. By *a poetic thought* one means *a thought especially suited to expression in verse.*

This definition, of course, calls for explanation as to which thoughts are suited to expression in verse. They are the thoughts which poets, past and present, have cast into verse. I am well aware that this answer involves the fallacy of arguing in a circle; yet it is the only answer possible so long as poetic thought continues to move in a circle, albeit an ever-widening circle. What is considered poetic thought is purely a matter of convention, or tradition, one race and one generation clinging to one type of thought and another race and its successive generations to other as distinctly different types. In spite of this, in all instances the thought must be fundamentally familiar, yet not so familiar as to be regarded as commonplace. To be acceptable it must be tinged with just enough of the unfamiliar to prevent it from being recognized for what it really is. The new thoughts which come to a race take their position in the communal heritage. If they are of such a nature as to stir the imagination and the emotions of the race, then the thoughts are ready to be classed as poetic; but woe to the poet who casts them into verse form before they have been accepted as suited to verse. Unless in his use of them he makes apparent at once their fitness for furthering the accepted tradition, he must bear the taunts of the critics until these latter have caught up with him intellectually; and he may even suffer a total eclipse because of the inability of either the critics or the masses to grasp what is implied by his symbols.

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[8] "The Foundations and Nature of Verse," p. 217.

Very, very rarely, however, have poets been original thinkers. They have thought after some preceding philosopher or some school of philosophers whose ideas they have appropriated as a message to a generation either prepared or almost prepared to receive them. Hence, a group of poets will have their vogue, will exhaust their *métier*, and will cease to attract further notice. A prenatal existence was much under discussion among the scientists and the literati of the generation for which Wordsworth wrote his "Intimations of Immortality." A better understanding of evolutionary principles has left this theme without its former speculative interest; yet who can not find beauty and inspiration in Wordsworth's glorious stanzas, not because they are scientifically correct, but because they are an accurate depiction of a recognized state of emotional elation? If the work of any poem were wholly dependent upon the acceptance or the non-acceptance of its interpretation of demonstrable truth, in what would lie the value of "The Rubaiyat" for the man who does not regard the pessimism of Ecclesiastes as the be-all and the end-all of life? Strange to say, humanity may be exalted by the intensity of an emotion even where that emotion is primitive in the extreme. Robert Browning knew this full well; but he did not always put his knowledge to good advantage even when he was extolling the regenerative power of the hot moment. The great body of the poetry of Wordsworth is inferior, not only because he chose subjects which he could not elevate to the point of giving them an emotional appeal even had he elected to clothe his meanings in the recognized poetic symbols, but also because he used indiscriminately so large a part of whatever presented itself to his mind. Although the historical data of "Othello" as well as the moral stability of two of its principal characters may easily be called in question, who does not feel that the consuming jealousy of its protagonist is a loftier and more inspiring theme than the midnight ride of Paul Revere?

Similarly both poetic vocabulary and verse form are tradition-fixed. There is one vocabulary for workaday speech and another for imaginative thought. This latter mode of expression harks back eternally to the past, not to a remote past, however, but to a past just sufficiently remote to be still remembered, although beginning to be remembered as touched with a golden haze. The words, having the flavor of the unusual, are lifted above the commonplace. They connote more than they denote. Here again the poet who, like Wordsworth, attempts to extend the poetic vocabulary to approach the limit of the circumference of widening poetic thought must bear the whips and scorns of his own time until the new vocabulary has become accepted as a part of the poetic tradition, until it has been dignified by association with the recognized symbols in use for presenting poetic thought.

Although verse is tradition-fixed, what special form (blank verse, sonnet, ballad) is to have momentary ascendency is determined by fashion and is attended by all the caprices which fashion is prone to display. Dryden and Pope so set their impress upon their generation that only the rhymed couplet and the well-turned, witty phrase dared offer themselves as poetry, whereas within recent years *vers libre* with its crudity of thought and of rhythm has been master of hounds. The future may swing again to the poetry of Greece and Rome or to that of Elizabethan England. It may even bring something which looks like the new. Who can say? Yet whatever arises will still be of the stock of the past, will not be altogether new; for each artist must saturate himself with the thought and the form and the symbols familiar to his art, and no one artist can add more to this than the expansion of his own mind dictates or than the expansion of the minds of his contemporaries will permit. His desire for creative expression must confine itself within the dimensions set by his physical endowment, by the actual limitations peculiar to the medium in which he works, and by the prevailing fashions in thought and in form. He is not free to open his soul to an inrush of cosmic truth and beauty. He can reflect only such meanings as he himself has grasped at least in part, and, if he be a poet, such as he can express through the medium of symbolic words set in definite rhythmic form.

As Edwin E. Slosson rightly insists, one cannot "become a scientist by merely reading science, however diligently and long," if a scientist is to be defined as "one who makes science, not one who learns science." A novelist is "one who writes novels, not one who reads them." By the same token, a poet is one who writes poetry, not one who is in a state of mind similar to that from which poetry does sometimes evolve. That the thought of all these types of mentality may have much in common is true; yet what they have in common is not necessarily the poetic state of mind, or even the general creative state. Only for the man who, thinking in terms of poetry, can give his thoughts expression in the symbols of poetry is this the poetic state.

Science can often be translated from technical terms into ordinary language without very much loss of any of the qualities which give science its value. Good poetry, on the other hand, never can be thus metamorphosed without the loss of practically everything which makes it worth reading. Often prose can employ the symbols of poetry when the thought is of the type to be rendered symbolically. It is then poetic, as is much of the prose of Carlyle; but I do not see how it can be regarded as poetry until it has taken upon itself the form of verse. Nor can I see why the man who produces it should be called a poet except through the license of metaphor. Flush a statue with all the colors of life itself; would it therefore be looked upon as a painting? No matter how musical its quality, until the words are actually sung are either prose or verse to be hailed as true music? Not so long as they are without definite pitch. The function of the composer is to add this extra tonal embellishment to them. Each form of art has developed its own natural boundaries. In spite of this tendency toward self-limitation, there are, however, constant excursions back and forth over the borders. Even when the scientist and the poet have almost every mental trait in common, they will still differ when it comes to fundamental intention. The scientist sets out to express his meanings as exact relations in as exact terms as language will admit of. The poet, on the contrary, seeks to stimulate in his readers a state of excitability in which the freer and more suggestive the symbolism, the closer the concept aroused in the auditor will approximate ultimate truth. As the medium for the presentation of fact, the poet is altogether untrustworthy; yet, although he may reveal to those who can read his symbols a greater truth of certain kinds than can be expressed in prose, still there are many truths wholly incapable of poetic representation just as there are aspects of nature impossible of reproduction in color and line. Of the latter John Ruskin notes as a case in point that "there are two conditions of foam of invariable occurrence on breaking waves, of which I have never seen the slightest record attempted; first, the thick, creamy, curdling, overlapping, massy foam which remains for a moment only after the fall of the wave, and is seen in perfection in its running up the beach; and, secondly, the thin, white coating into which this subsides which opens into oval gaps and clefts, marbling the waves over their whole surface, and connecting the breakers on a flat shore by long dragging streams of white. . . . The reader sees, therefore, why I said that the sea could only be painted by means of more or less dexterous conventionalism, since two of its most enduring phenomena cannot be represented at all."[9] To attempt to reproduce them is to undertake the impossible, to register failure before starting out. Milton failed grandly in the greater task of representing the compassion of God. That Tennyson should meet with a similar fate in his drawing of Arthur, in which the purpose was to show a more human perfection within a fairly limited scope, only goes to establish the contention that the representation of some of the highest qualities which man can imagine are unsuited to poetic art.

The poet, then, selects for his use in verse thoughts which can be expressed symbolically by means of a vocabulary established through centuries of special application, but still capable of gradual expansion to meet the changing conceptions of art. The prose writer, on the other hand, has as his purpose the expression of every possible gradation of thought, and the use of language in which the symbolic application of the words has been exchanged as far as possible for a literal identification of word and thought, yet which may be heightened all the way to the point of poetic exaltation. Prose at this juncture overlaps poetry and poetry prose to such a degree that the distinguishing characteristic of completely developed rhythmic patterns for poetry and of only partially developed patterns for prose now furnishes the sole line of demarcation between the two. Here the true poet differs from the prose writers and from the second grade poets only in the greater perfection to which his sense of rhythm and his powers of symbolic representation have been developed, and in the loftiness of the conception which through these agents he sets himself to convey.

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[9] "Modern Painters," Vol. I, pt. 2, sec. 5.

A PSYCHOLOGICAL BASIS FOR THE ORIGIN OF RELIGION

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SOME writers upon the subject maintain that the basis of religion is to be found in what they call "religious instinct" or "religious instincts." They have never made any serious attempt to explain what they meant by these particular instincts or instinct; in fact they never gave any fundamental proof of the above hypothesis. James rightly points out that to say that there is a religious love, religious fear, religious joy, etc., means nothing else than that the religious love is only an emotion of love directed toward religious objects. And the same thing is true of all other so-called "religious instincts." Because hardly any present psychologists accept the above theory, we are justified in dismissing it.

In order to determine the origin of religion we must put ourselves in the position of the primitive man who first gave it expression. Consequently, the first task before us is to attempt to describe the mental life of the primitive man. Religion being a product of the career of man, we must necessarily determine the psychological mechanism which brought it about. Are we to suppose that the perceptive experience of our forefathers was the same as ours? We, in our everyday experience, try to explain everything in terms of mechanical causation. Our representations are intellectual primarily, while the motor and emotional functions of our judgments are practically left out or are at their minimum. We have made the intellect the center of our perceptive experience. We do not want to believe that Santa Claus is the Christmas tree or the presents given on that occasion. Our representations have the same character as our perceptions, and since the one is cognitive, the other must also be cognitive. Our perceptions being intellectual, our experience must also be intellectual. On the other hand, the experience of the prehistoric man is altogether different. We may get most of the characteristics of primitive life by studying the mind of the child. A child's experience of a doll is not that of a wooden or painted being, but a being much like itself, which has the power to eat, cry, sleep, etc. When the child stumbles over a chair, it becomes angry with it and punishes it for being the cause of the child's tumbling over. The child knows that there is a "live principle" which is the very chair, very much like itself, which has the power to make it stumble. In a child's judgment, the emotional and motor experience is at a maximum, and the intellectual at a minimum. From the following examples we may note that the primitive man had the same sort of experience as the child has. For instance, the Cherokees believed that the birds lived in a civil society just as they did. They also thought that illness came from what we may call today mystic action exercised by animals on the hunters. Among the Mexicans each of the organs of the human body has a mystical significance, that may be illustrated by the custom of cannibalism. The heart, liver, etc., are imputed to have the same qualities for them that eat them as they had for the man from whose body they were taken. The religious practice that is known as *mana* may be cited in this connection. "If a man has been successful in fighting, it has not been his natural strength of arm, quickness of eye, or readiness of resource that has won success, he has certainly got the mana of a spirit of some deceased warrior to empower him, conveyed in an amulet or a stone round his neck, or a tuft of leaves in his belt, in a tooth hung upon a finger of his bow hand, or in the form of words with which he brings supernatural assistance to his side. If a man's pigs multiply, and his gardens are productive, it is not because he is industrious and looks after his property, but because of the stones full of mana for pigs and yams that he possesses. Of course, a yam naturally grows when planted, that is well-known, but it will not be very large unless *mana* comes into play; a canoe will not be swift unless *mana* be brought to bear upon it."[1] Or we may call to our attention the famous example of the camel sacrifice by the Arabs, the significant factor of this sacrifice being "the conveyance of the living blood to the godhead, and the absorption of the living flesh and blood into the flesh and blood of the worshippers."[2] Primitive men made no distinction between animate and inanimate objects, as stones, trees, etc.; they held that plastic images of objects are as real as the objects themselves. Chinese regard the images of objects as altered egos or an indwelling soul. They associate the image with the object, and that is so strong that it becomes the basis of what we call idolatry. The Mandans of North America believe that the pictures are as living as their models. The primitive Indians refused to have a picture taken because they thought that it would give the man who had the picture a power over them. Primitive people regard the names as real and secret and, in fact, as a vital part of them; just as much a part of their individuality as their eyes or teeth. They think they would suffer for the abuse of their name as they would from a wound inflicted on their body. From the West African Indians we are informed that there is a real physical connection between a man and his name. Therefore, the king's name is not given away, and the same is found to be true with the early Jews; they substituted a name for the real name of their God because they believed that a person may hurt the God by misuse of His real name. The primitive man believed that whatever attached to one's shadow attached to one's self; to walk on one's shadow would be mortal injury. Among West Africans, a murderer is the individual who thrusts a knife in the shadow of a man, and if the guilty person is caught, he is executed. Man in this stage of mental development interprets dreams as actual perception, just as real as the activities of waking life. Dreams are even regarded as sacred things, and God is thought to reveal himself to men that have them.[3]

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[1] R. R. Marett, The Conception of Mana, p. 48.
[2] Robertson Smith, Lectures on the Religion of the Semites, p. 339.

From these few examples we may infer that the representations of a primitive man are of a volitional and emotional nature. That does not mean that the primitive man was in any sense different from what we are today.[4] Human nature has changed very little, as an organic mechanism. The difference is not in the human organism that man inherits today, but in the ages of learning, science and tradition. Cultured people aim to suppress the emotional and volitional elements, especially in the training of children. We take interest in having the intellectual or cognitive factors outstanding; while in the primitive man the logical elements are not as highly developed and therefore the primary functions in his judgments are volitional and emotional, and as a consequence of that, things are interpreted, i. e., experienced by him, altogether differently from what they are by us.

What is the world of objects to the primitive mind as he experiences it? From the above illustrations and analysis we may suppose that the primitive mind does not recognize the external world; the whole world in a certain sense is a part of him, being in some way vitally connected with his actual personality.

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[3] Most of these examples are taken from Levy Bruhl, Les fonctions mentales dans les sociétés inférieures, Paris, 1910.

[4] As Dewey points out in his Reconstruction in Philosophy, p. 4. (Henry Holt & Co., 1920.)

We may assume, what is an obvious fact, that the primitive mind lacked the conception of mechanical causation. Even in our cultured life we lack some of the causal explanations, and some of us, nay, most of us, try to explain the occurrence of some phenomena by supernatural causes. Is not our literature, even contemporary literature, full of magic? The savage may be familiar with mechanical causation in so far as it concerns his small sphere of personal interests, but he does not, we are sure, employ that principle in reference to everything in the world about him. We may say that the blowing of the wind, the crash of the thunder, the flash of lightning, the flowing of the rivers, the fall of bodies toward the earth, rain, fire, heat and light from the sun, growth of vegetation, reproduction, growth of animals, and complete darkness, all these things interest him otherwise than they do us. In all of these he either sees pain or pleasure; in respect to them he is in a state of fear and awe, or, as Warde Fowler called it, in a state of *religio*, in a state of intense feeling. To relieve himself of this state of *religio*, which is necessary in order to make life stable, in order to make it possible for him to predict about the future, to avoid pain-giving experiences, and to multiply his pleasures, he must make some account of the things about him. The only kind of causation he is aware of, because of the predominance of the volitional and emotional factors, is his act of volitional response from these feelings, emotions, and desires, and this naturally becomes the model for him upon which he bases his ideas in interpreting the world. This is preserved in his memory, is lived over and over again as often as the memory is revived. Each new revival takes new form and fancy. The interest of the moment selects the incidents of the past as stored in the memory, and shapes them into fantastic revivals of past experiences. As Dewey points out, the primitive man's leisure, occupying by far the larger part of his waking life, and being devoid of contemplation of the future, is filled up with fanciful recollections of the past. These recollections are emotional and volitional, and take the form of a drama. It is this dramatic form into which recollections are shaped that becomes all-important and interesting. The experiences are not only dramatized, but also personified. Each experience, each individual factor or member of an experience, as told and retold in time of leisure, is an expression of some personal purpose. Every object or individual that took part in any experience, becomes personified and its activity is explained in terms of purposes, desires, hopes or fears. Each object not only lives an individual life of a person, but a life of emotions and volitions, of pain and pleasures, of love and hate, of triumphs and defeats. Primitive man finds in them important factors influencing his own life, in fact indispensable factors of his situations, and therefore they become, whether animate, or inanimate, members of his "world" or his tribe, or his ancestry. And the objects of his experience, become members of his community, tribe, family, or of his enemy, have certain powers or influences over his destinies.

Now, may we be able to see what may have been the bases which gave rise to religion in such a primitive world of experience. The flash of lightning, the noise of thunder, the destructive power of the flood, the activities of a tiger, are the factors which in primitive man excite his emotion of fear, while other incidents again excite his other emotions. For the sake of illustration and clearness we may take a concrete example: when the man of the stone age went out with his fellow men to hunt and after a time a storm came up and his fellow men happened to get killed by the fall of a tree, or a bolt of lightning, he probably trembled with fear and ran back to his house, knowing that there was some external cause which was responsible for the death of his tribesmen. Now let us suppose that at some other time, the lightning, or some other factor happened to kill a deer which he was chasing. He probably felt a joy because again he knew that it was not he who killed the deer. But he did not stop to think of the reasons for these particular happenings. At another time, when he desires to cross a stream in company with other men, some of them happen to get drowned and others cross safely. This experience again awakens in him a sense of fear and also a joy because he happened to cross safely — an experience which he does not explain, because the primitive man's judgments are not cognitive; i. e., he does not interpret his experiences in terms of mechanical causation, neither does he see the connection nor connect the past experiences with the present. His past experience assuming a dramatic form, does not lend itself to that end. He is just like a child who at one moment sticks pins in her doll, pulls its hair, throws it about, and the next moment is giving it her greatest attention by feeding it, dressing it as a mother does a child. The above experience of the primitive man is just a matter of fact with which he does not associate any mechanical motion.

With the development of language, man not only dramatizes his experiences of the past, which he tells in the form of a story, but also, that which seemed to him strange and unknown now begins to be interpreted, and to assume teleological meaning. In order to be relieved of the state of *religio*, he begins to interpret these objects, developing different kinds of hypotheses concerning them, and probably by analogy, even though unconsciously, he develops a hypothesis which is supposed to explain everyday experience. In that stage of development the savage knows that by doing good deeds to his fellow men they in turn are kind and helpful to him and vice versa. He probably thinks the same is true with the objects about him. That is, if he would please these powers, or objects personified, they would in turn be helpful to him. He therefore assumes that all natural evil is due to his indifference or displeasing actions to these forces.

Not only is the world about him personified, and the motivating force teleological, but there develops a system of explanations and predictions. This "system" of explanations and predictions not only makes life more pleasant and stable, but relieves men from the intense state of feeling, called *religio*. His explanations are not mechanical but dramatic and personal. Naturally, men did not check their fancies by fact; the explanations of the happenings took the form of supernaturalism, rather than of naturalism. In this stage of development, man becomes conscious of his limitations in his battle for food and against environment in general; he finds in them forces which are stronger than himself, and which are the determining agents of his success or failure in this struggle. And so, through his fear and trembling he learns how to avoid giving offense to these fearful powers. From the analogy of his attitude toward his fellowmen, he hopes that by avoiding their anger, they will help him to accomplish his end; he develops a certain definite way by which he can serve and please these agents. And therefore we find him bargaining with these powers by praying and offering sacrifices to them, and here we find the beginning of religion at work.

We may summarize our discussion in the following paragraph. Primitive men develop a system of explanations which are a means of relieving them of an intense state of complex feeling, and insecurity, and giving them not only clarity and stability, but also a power of prediction, even though it be not accurate. Because their experience is retold dramatically, and their material is organized not logically but emotionally, the objects of their experience become personified. The world about them assumes a multiplicity of living personalities, very much like themselves, some having definite controlling powers over their aims and desires. The explanation of the world is that of fancy and not of fact, of poetry and not of science, of poetic truth and not of scientific fact; a world of supernaturalism, and not of naturalism. In that world they learn how to please the powers that control them; the instruments that they develop are those of magic, rather than those of scientific method. It may be added that when man has in the course of development learned that mechanical science makes prediction more certain than magic, supernaturalism as an institution loses its place as an instrument of control of natural events, and becomes a social instrument, losing that function with the growth of secular organizations, whose chief function is to provide social mechanism. Again institutionalized supernaturalism becomes the great inspirer of art in every form, only to lose that place with the development of Protestantism.[5] Here we may pause to express regret, because of the loss to art, as such, and to humanity involved in the decline of supernaturalism as an inspiration of the esthetic imagination.

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[5] We must not be misunderstood to mean that these transitions were abrupt. In fact, all these tendencies are to be found at any given time, but one or the other of these dominate at different historic periods.

THE PSYCHOLOGICAL POINT OF VIEW IN HISTORY: SOME PHASES OF THE SLAVERY STRUGGLE

BY D. A. HARTMAN

THERE has developed within recent years an increased interest in the application of psychology to history,[1] a demand for a greater co-operation voiced by both the historian and the psychologist. Psychology offers the historian the modern scientific concept of human behavior to take the place of the antiquated theories of human nature. The psychologist, on the other hand, borrows from the historian the results of researches. The extent to which this has been carried on is striking when one recalls how replete with examples from history have been recent books on social psychology. The historian, however, has been much slower in making use of psychology. The psychological interpretation of history, it must be granted, is in its initial stage. A considerable resistance must be overcome, for the average historian shares with all people the inertia of custom and self-satisfaction.

I have heard many historians lament the fact that the reading public has lost interest in history. Is it not possible that the intelligent reader with a scientific understanding of human behavior finds the history written from the point of view of some antiquated conception of human nature rather unreal and, consequently, uninteresting? Perhaps some historians have given too much time to the digging up of past facts of human conduct, and too little time to the recognition of the real significance of those facts. The historical problem is fundamentally a psychological problem. The modern science of human conduct offers a tool for the solution of the problem. "The historian needs his psychology as the physicist needs his mathematics."[2]

The writer of history is dealing with human behavior in the past. Before he writes about a given period he must find all the facts that the record of the times can give him. But the great number of details that he discovers cannot be placed before the reader. The historian must select the significant facts. But if he approaches his task with some antiquated notion of human nature, he will be blind to the truly significant facts of human behavior. To the intelligent reader his history will be unreal.

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[1] For an excellent survey of the situation see Barnes, H. E.: *Psychology and History*, Am. J. of Psychology, v. 30, 337–76.

[2] Münsterberg, *Psychology — General and Applied*, 356.

The reformer of 1830 had a "psychology" as well as has the reformer of today. The historian, to give a true estimate of the work of William Lloyd Garrison, the Abolitionist, should understand the nature of the reformer. Was the realization of the evil of slavery the driving force behind Garrison's efforts, or was Abolition merely one means of expressing a far more general drive? In this connection it is interesting to note that Garrison was a "reformer" before he became an abolitionist. In 1828 he was editor of one of the first "prohibition" papers in the United States, *The Philanthropist.*[3] As late as 1829 Garrison said: "I acknowledge that immediate and complete emancipation is not desirable. . . . No rational man cherishes so wild a vision."[4] Two years later, in the first number of his abolition paper, the *Liberator*, we read: "I shall strenuously contend for the immediate enfranchisement of our slave population — I will be as harsh as truth and as uncompromising as justice on this subject — I do not wish to think, or speak, or write with moderation — I am in earnest — I will not equivocate — I will not retreat a single inch, and I *will be heard!*"[5] Did the fact that few people cared to read *The Philanthropist*, that a prohibitionist in 1830 would not be "*heard*," account to a certain degree for this change?

As editor of *The Philanthropist*, in 1828, Garrison advocated, in addition to temperance, many other reforms. He fought lotteries, imprisonment for debt, and particularly "the desecration of the Sabbath."[6] Universal peace was another cause to which he was devoted at this time, and of which he never lost sight during all of his later abolition agitation.

From evidence such as this it would seem reasonable to conclude that Garrison was primarily a reformer, an agitator, and that the abolition of slavery was merely one method of expression for this more fundamental drive.

A study of the factors beneath this drive for social reformation is still more interesting. It is fitting here to submit for the reader's consideration two seemingly significant instances in Garrison's youth.

I. In July, 1827, Garrison, who was then a young man of but twenty-two years, attended a nominating caucus at Boston. Although he had been in the city not more than six months, and knew very few people, he came to the political meeting with a memorized speech in behalf of a man he admired. During the course of the evening, he seized an opportunity to deliver his address. Before he had concluded, however, his memory failed him, forcing him to read from the manuscript the remainder of the eulogy.

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[3] Garrisons', *William Lloyd Garrison*, I, 80.

[4] Garrisons', William Lloyd Garrison, I, 140.

[5] *The Liberator*, Boston, 1 January, 1831.

[6] Garrisons', William Lloyd Garrison, I, 84.

A man who had been present at this caucus, a well-known local politician, considered the bold interruption as rather presumptuous on the part of an unknown young workingman, and expressed himself quite freely in the *Boston Courier*, July 12, 1827. Two days later the same paper published young Garrison's reply. The nature of the conclusion of this reply is significant: "It is true my acquaintance in this city is limited — I have sought for none. Let me assure him, however, that if my life be spared, my name shall one day be known to the world — at least to such an extent that common inquiry shall be unnecessary. This, I know, will be deemed excessive vanity — but time shall prove it prophetic."[7]

II. A year later (1828) Garrison wrote the following "prophecy" to a newspaper editor who professed to ignore him: "I have only to repeat without vanity, what I declared publicly to another opponent — a political one (and I think he will never forget me) — that, if my life be spared, my name shall one day be known so extensively as to render private enquiry unnecessary, and known, too, in a praiseworthy manner. I speak in the spirit of prophecy, not of vainglory — with a strong pulse, a flashing eye, and a glow of the heart. *The task may be yours to write my biography.*"[8]

A close study, from the psychological point of view, of the life of this famous reformer may be able to show us that the recognition of the evil of slavery was not the primary cause that led to his agitation for abolition. As has been pointed out, Garrison had tried other reform activities; prohibition, anti-lottery, universal peace, and the old opposition against "the desecration of the Sabbath." It may be that the desire that his name should "one day be known so extensively as to render private enquiry unnecessary" was a factor of far from minor importance in the character of the man who played a leading part in the struggle that led up to our Civil War. Whether or not the "desire to be heard" was a potent factor in the career of this reformer can be answered by the historian who brings to his aid the results of modern psychology.

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[7] Garrisons', *Garrison*, I, 74–6.

[8] Garrisons, *Garrison*, I, 100.

The forces behind other individuals in the abolition movement require the same study. How much truth is there in the suggestion that the abolitionist zeal of the New England deacons pleasantly obscured the fact that they and their fathers had gained their fortunes from the rum trade with the negroes of the West Indies?[9] Was hatred toward the "aristocrat" of the South, the slave-owner whose "delicate hands"[10] did not have to "take hold of the plough, and cultivate lands" as did his brother of the North, a more powerful force than pity for the poor slave?[11] Hate is a common response against injury or a threatened injury. Man experiences this emotion "when he hears of injury or has reason to believe that injury is to be suffered." "His sufferings are largely mental and his responses are to imagined or foreseen injuries rather than to real injuries."[12] This appeal to hate by suggesting possible injuries to the northern workingman by the South was made use of in political campaigns.[13] It is also to be found in early, as well as later, anti-slavery literature. One campaign document used in 1856 alleges the following quotation from "a South Carolina paper."

> The great evil of Northern *free* society is that it is burdened with a *servile* class of *mechanics* and *laborers unfit for self-government*, and yet clothed with the attributes and powers of *citizens*. Master and Slave is a relation as necessary as that of parent and child; and the Northern States will yet have to introduce it. Slavery is the natural and normal condition of the *laboring man*, whether *white* or black.

The same document quotes the *Richmond Enquirer* as saying that the principle of slavery "does not depend on *difference of complexion*."

We find a similar quotation in an anti-slavery magazine of 1836.

> Let Christian freemen awake to their political responsibilities. The penalty of a little more slumber will come upon them like "an armed man,"

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[9] Barnes, H. E., Psychoanalytic Review, VIII (1921), 25.

[10] From the *Liberator*, April 9, 1831. Some satirical verses by "G—n" under the caption "Apologies." The quotation above is "Apology No. 1."

"For unless we can kidnap and purchase at pleasure,
We must do our own labor, and sport — when we've leisure:
Oh! shocking the thought, that these delicate hands
Must take hold of the plough, and cultivate lands."

[11] Pillsbury has pointed out the importance of "hate as a social force." *Psychology of Nationality and Internationalism*, Chap. III. See, also, Martin, E. D., *The Behavior of Crowds:* Chap. V, "The Crowd as a Creature of Hate."

[12] Pillsbury, W. B., *Psychology of Nationality and Internationalism*, 86.

[13] Pamphlet in the Columbia University Library (quoted by F. T. Carlton in *Organized Labor in American History*, 147).

and it may be to wear on their own necks the yokes they would not break from the necks of others, ***when they had the power***.[14]

Pity for the slave was not the strong force. It was not until hate and fear entered the situation that the movement had the power to bring results. The growing class of wage earners in the North came to feel that slavery was a menace to the white workers individually and as a class.[15] To this class were added the small business men and farmers.[16] When the slave interests began to thwart the westward extension of the North into the territories, the real power of the movement against the South was developed. Hate and fear, the common response to the thwarting of the economic drives of various classes in the North, made ready that section for the conflict. Pity for the slave furnished a happy rationalization. "The Republican party was not an anti-slavery party. It was a homestead party. On this point its position was identical with that of the workingman. . . . Only because slavery could not live on one-hundred-and-sixty-acre farms did the Republican party come into conflict with slavery."[17]

We have already seen one way in which hate for the South was developed in the northern working men. There was another method used which is of interest here. Angell has made the observation that the crowd leader continually "likens the issues he desires to defend to other issues, whose merits are entirely beyond doubt. If he can thus identify his cause in the minds of his hearers with another cause already enjoying their cherished confidence, his victory is easily won."[18] There can be no doubt that this is an effective means of establishing a favorable attitude. It is necessary, however, to recognize a corollary of this; i. e., by likening the cause of the opposition to lost, unpopular, or detested movements, an unfavorable attitude toward the opponent's cause may be established. In this study it has seemed that the latter method has been used more than the former.

From the South we have the statement that men committed to anti-slavery ". . . are, in effect, committed to Socialism, and Communism, to the most ultra doctrines of Garrison, Goodell, Smith and Andrews — to no private property, no church, no laws, no government — to free love, free lands, free women and free churches."[19]

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[14] *Quarterly Anti-Slavery Magazine*, New York, April, 1836.

[15] Carlton, *Organized Labor in American History*, 146.

[16] Dodd, W. E., *Expansion and Conflict*, 161.

[17] Commons, J. R., *Political Science Quarterly*, v. 24, 487.

[18] Angell: *Chapters from Modern Psychology*, 217.

[19] Fitzhugh, George, *Cannibals All! or Slaves without Masters*, Richmond, Va., 1857, p. 368.

We find the same method again used in this form:

> . . . the great movement in society, known under various names, as Communism, Socialism, Abolitionism, Red Republicanism and Black Republicanism, has one common object: the breaking up of all law and government, and . . . the destruction of the family is one of the means in which they all concur to attain a common end.[20]

A northern author employs the principle observed by Angell, as well as the corollary suggested above, by comparing the northern people with the Puritans and the people of the South with the Cavaliers. The Puritans were the men ". . . who overturned the throne of Charles I, reared a Commonwealth out of the chaos of civil war, and engendered among the English people a republican spirit . . ." On the other hand, the Cavaliers were "of that effeminate and supercilious nobility" who tried to support the tyrant king.[21] In this connection, the title of the author's book, *Barons of the South*, is of equal significance.

Closely related to this method is the giving of only the extreme cases on the opponent's side, and thus creating the impression that such deplorable conditions were universal. Garrison, in the *Liberator*, made constant use of this illusion. One historian has remarked that a person "reading the abolitionist literature . . . would come to the conclusion that the people of the South were all man-stealers and kidnappers, and that the swish of the lash was constantly heard south of the Mason and Dixon line from the beginning of the year to the end thereof. Many good people, thousands of them, hundreds of thousands of them, believed this word picture to be true."[22]

The title of the *Liberator*, and its motto, "Our Country is the World — Our Countrymen are Mankind," and titles of books, such as *Barons of the South* and *Cannibals All, or Slaves without Masters*, tend to show what wide use was made of connecting one's own cause with all that was good and one's opponent's cause with all that was bad.

It would be difficult to find in history a problem more interesting from the psychological point of view than the development of the attitude of the South toward slavery from 1830 to the outbreak of the war. Down to 1830 the South was open to discussion on the slavery question: "churches, the missionary societies, and individuals urged moderate treatment."[23] Benjamin Lundy, a northern anti-slavery man, founder of the abolition paper, *The Genius of Universal Emancipation*, was able to organize anti-slavery societies in the South as well as in the North.[24] But about 1830 a change came in the attitude of the South toward slavery discussions; "the denunciation of slavery slacked, the efforts at amelioration hesitated, and eventually ceased," arguments against the institution changed to excuses, then to justification, "then to positive praise of slavery, then to a state of mind in which the admission that any part of its 'Peculiar Institution' ought to be reformed was regarded as disloyal."[25] Calhoun said in the Senate, February 6, 1837: "But let me not be misunderstood as admitting even by implication that the existing relations between the two races in the slave-holding states is an evil; far otherwise, I hold it to be a good, as it has thus far proved to be to both."[26] This came to be the view of practically the entire South.

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[20] Ibid: 287.
[21] Reynolds, E. W., *The Barons of the South;* Boston, 1862, pp. 18–19.
[22] Channing, *History of the United States*, V, 151.

The change in attitude was reflected in Congress, resulting in the House rule of 1836 by which all papers and petitions relating to slavery were held to be laid on the table without the possibility of further action. Not until December, 1844, was this "gag rule" rescinded.

About 1830 the slave-holder faced a dilemma. On the one hand was the growing belief that slavery was "the *heaviest* calamity which has ever befallen any portion of the human race," "a curse upon him who inflicts as upon him who suffers it."[27] On the other hand was the fact that cotton culture by slaves was becoming profitable.[28] The conflict between these two forces, the economic drive of the growing profit of cotton and the dawning realization of the moral evil and danger of slavery, demanded a solution. The economic pressure proved the stronger, but the moral phase could not be ignored. The solution of this conflict by the South was the building up of a *defence mechanism*, a social phenomenon worthy of the study of both the historian and the psychologist. To one who does not recognize the significance of the *defence mechanism*, a great part of the speeches and publications coming from the South after 1830 will seem to be a mass of glaring inconsistencies, worthless excuses, and pure hypocrisy.

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[23] Hart, A. B., *Slavery and Abolition*, 136. See also Channing, History of the United States, V, 154.

[24] Hart, *Slavery and Abolition*, 159.

[25] Ibid: 136.

[26] Calhoun Works, II, 630.

[27] "Debate on Emancipation in the Virginia Legislature, in 1832" — quoted by Channing, *History of the United States*, V, 143.

[28] Channing, History, V, 140; also Hart, *Slavery and Abolition*, 162.

A common form of defence mechanism is termed *rationalization.* This serves as a method of escape from "facing the facts." The individual cannot bring himself to look upon the true causes of his conduct. His escape is to replace these real causes by reasons, invented unconsciously, but accepted with the full belief that they are true explanations of his behavior and feelings.

The mechanism would seem to be similar in the case of a large social group. The "reasons" replacing the true causes come from individuals. The group as a whole is limited to accepting or rejecting these suggestions.[29] Once accepted, they are tenaciously held, impervious to all logic. We shall now examine various rationalizations accepted by the South from 1830 to 1860.

Could a man enjoy the increasing profits of slavery and at the same time be a Christian? The abolitionists incessantly hurled this question at the South. The slave-holder could not retain slavery and at the same time admit that the institution was sinful. For his own peace of mind a defence must be constructed. The attitude that slavery was sanctioned by God was gradually developed. The following quotation, taken from the writings of a pro-slavery man, shows how this was done. The author points out that "St. Paul actually apprehended a runaway slave, and sent him to his master! . . . it would be difficult to imagine sentiments and conduct more strikingly in contrast, than those of the Apostles and the abolitionists." Other examples of an attitude in the Bible favorable to slavery are mentioned, after which the author states: "I think, then, I may safely conclude, and I firmly believe, that American Slavery is not only not a sin, but especially commanded by God through Moses, and approved by Christ through his apostles. And here I might close its defence; for what God ordains, and Christ sanctifies, should surely command the respect and toleration of man."[30]

"Rabbi Morris J. Raphall stated the biblical argument in favor of slavery in its baldest form. There, in the Ten Commandments given on Mt. Sinai, he wrote, 'There where His finger scorched, the tablet shone.' The fourth commandment brought rest to all including 'Thy male slave and thy female slave' and the Lord forbade a man to covet his neighbor's house or 'his male slave, or his female slave, or his ox, or his ass.' And Abraham and Isaac, who themselves talked with God, were slave-holders. Why then invent a new sin not known to the Bible, and thus exasperate thousands of God-fearing, law-abiding citizens of the South."[31]

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[29] For the view of the group as limited to accepting or rejecting, see Pillsbury, *Nationality and Internationalism*, 198.

[30] Hammond, Pro-Slavery Argument (1852), p. 108.

A similar defence warded off the humanitarian argument against slavery. The system at times might be cruel; but so were the industrial conditions of the laborer in England and at the North. In fact, so the reasoning ran, the slaves were better off than the workers in other parts of the world.[32] Indeed, slavery was a boon to all mankind, for it supplied the cotton clothing of the poor of all lands.

> By enabling the poor to obtain cheap and becoming clothing, it inspired a taste for comfort, the first stimulus to civilization. Does not *self-defence*, then, demand of us steadily to resist the abrogation of that which is productive of so much good? It is more than self-defence. It is to defend millions of human beings, who are far removed from us, from the intensest suffering, if not from being struck out of existence. It is the defence of human civilization.[33]

Since slavery was a great advantage to the negro, why not extend it to the white laborer?[34] "If some superior power should impose on the laborious poor of some other country — this as their unalterable condition — you shall be saved from the torturing anxiety concerning your own future support and that of your children."[35]

That slavery had evil effects upon the morals of young men, southern writers could not deny.[36] Here the defence mechanism took two forms. First, there was the rationalization that slavery protected the "honor" of the white women of the South.[37] What was lost in the moral behavior of the white man was compensated for by the chastity of the southern woman.

The second form of defence closely resembles *projection*. The southern writer liked to point out the immoral conditions of the North, the "horrible sin of white prostitution."[38] Mention is made of "New York Free Love, and Oneida Incest, and Mormon Polygamy."[39] The North was the land of "free love, free lands, free women and free churches."[40] The South defended itself from the idea of its own moral conditions by hunting out those of the North.

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[31] Channing, *History*, 162.

[32] Hammond in *Pro-Slavery Argument*, 134–38.

[33] Harper in *Pro-Slavery Argument*, 88.

[34] See Hart, *Slavery and Abolition*, 144. For the reaction of the North to this type of argument, see ante pages 6–7.

[35] Here we find this type of rationalization: "Providence has placed him (the slave) in our hands, for his good, and has paid us from his labor for our guardianship." *Pro-Slavery Argument*, 275.

[36] *Pro-Slavery Argument*, 42–4, 61, 228–29.

[37] Ibid: 43.

[38] Ibid: 228.

[39] Fitzhugh, *Cannibals All!* 376–9.

It is characteristic of an individual who has constructed defence mechanisms to resist bitterly any attempt to break them down. The same resistance may be found in the social group. Even the principle of "freedom of speech" must give way for the protection of the defence material.[41] In times of war, the justice of the nation's position must not be questioned. The reader can without doubt recall instances that will serve as most satisfactory examples of this resistance during the recent war. It has been remarked that "When Republicans were 'black abolitionists' they would have regarded any attempt to suppress *The Liberator*, as edited by William Lloyd Garrison, as an assault upon the constitutional liberties of the whole nation. But they are not now (1919) particularly interested in preserving the constitutional liberties of the nation as represented in the right of circulation of the *Liberator*, edited by Max Eastman."[42]

The South, in order to protect the defence mechanism built around its "Peculiar Institution" from the penetrating criticisms of the abolitionists and anti-slavery men of the North, found it necessary to deny the "fundamental doctrine of freedom of speech." Hence, we have the "gag rule," the refusal to permit anti-slavery propaganda to pass through the mails, and the prohibition of public addresses and discussions on the question of slavery. The following quotation from a southern writer is an excellent example, not only of the rationalization of the prohibition of freedom of speech, but also of the process of constructing defence mechanisms.

> A comparison of opinions and institutions . . . will lead to kinder and more pacific relations. Hitherto, such comparisons could not be made, because the South believed herself wrong, weak, and defenceless; and that Abolition was but an attempt to apply the brand to the explosive materials of her social edifice. She is now equally confident of her justice and her strength, and believes her social system more stable, as well as more benevolent, equitable and natural, than that of the North. Whilst she will never tolerate radical agitation and demagogical propagandism, she is ready for philosophical argument and discussion, and for historical and statistical comparison.

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[40] Ibid: 368.

[41] For the "sanction of common approval," see Pillsbury, op cit. 208.

Barnes (Am. J. of Psy., v. 30 [1919] p. 374) has suggested that southern chivalry may have been a collective compensation for sexual looseness, racial intermixture, and maltreatment of the Negro.

[42] Martin, E. D., *The Behavior of Crowds*, 264.

> A Southerner employs the term 'discussion' as equivalent to agitation; for the South does not proscribe the discussion of any subject, by the proper persons, at the proper places, and on the proper occasions. (Who are proper persons, and what are proper times and places must be left to a healthy, just and enlightened public opinion to determine.) But men shall not lecture our children, in the streets, on the beauties of infidelity; parsons shall not preach politics from the pulpit; women shall not crop the petticoat, mount the rostrum, and descant on the purity of Free Love; incendiaries shall not make speeches against the right of land-holders, not teach our negroes the sacred doctrines of liberty and equality.[43] . . . We want to be friends with them (the North) and with all the world.[44]

Here we have clearly placed before us the process that had taken place in the South between 1830 and the Civil War. At first the South believed herself "wrong, weak, and defenceless." At the end of the period she has become "equally confident of her justice and her strength, and believes her social system more stable as well as more benevolent, equitable and natural than that of the North." No reason is given to explain why the South set about to discover that slavery was a "positive good." No mention is made about the profit of cotton culture. A defence mechanism against criticism has been built around the doubts of the South as to the ethical basis of its "Peculiar Institution." As with all such mechanisms, the question is not open to discussion, except "by proper persons, at proper places, and on proper occasions." If the defence is broken down, the moral sense of the South will be shocked, the "Peculiar Institution" will be doomed, and the supposed profits of the system lost. The entire southern position depended on the moral righteousness of slavery.

The denial of the freedom of speech on the slavery question is rationalized on the basis that "men shall not lecture our children, in the streets, on the beauties of infidelity . . . nor (here the basic reason crops closer to the surface) teach our negroes the sacred doctrines of liberty and equality."

Although the South tried hard to convince herself that slavery was a "positive good," when the critical point of actual secession came, she was forced to find a more satisfactory justification of her action. There had been developing in the South another rationalization, the

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[43] We note that the doctrines of liberty and equality are sacred for the white man — not for the slave. No matter how inferior a "poor white" might be, he had the satisfaction of feeling that a great many blacks were far beneath him. This compensation for inferiority, and the *prestige* of the great planter, may account to a relatively great degree for the loyalty of the "poor white" to the cause of the slave-holder.

[44] Fitzhugh, *Cannibals All!* 377–9. Richmond, Va., 1857.

Calhoun doctrine. When the crisis came, this, rather than the justice of slavery, became the battle cry.[45] Rhodes has well expressed this view in the following words:

> The justification alleged by the South for her secession in 1861 was based on the principles enunciated by Calhoun; the cause was slavery. Had there been no slavery, the Calhoun theory of the Constitution would never have been propounded, or, had it been, it would have been crushed beyond resurrection by Webster's speeches of 1830 and 1833, and by the prompt action of President Jackson. The South could not in 1861 justify her right to revolution, for there was no oppression, no invalidation of rights. She could not, however, proclaim to the civilized world what was true, that she went to war to extend slavery. Her defence, therefore, is that she made the contest for her constitutional rights, and this attempted vindication is founded on the Calhoun theory.[46]

The North, on the other hand, was as anxious to extend the free labor system into the territories as was the South to extend slavery. Once the war was under way, Unionism and anti-slavery became broad enough standards to include a sufficient force of popular support.

While the conflict lasted, and for many years afterwards, the more basic reason, the supposed profit of slavery on the part of the South and the demand for free western lands by the North, dropped into the background so far as public propaganda and popular history were concerned. The war became apparently a struggle for political ideals and moral convictions. Many writers of that period (and we still have echoes from them) concerned themselves with erudite constitutional arguments and moralistic philosophy on the right and wrong of slavery, and missed entirely the significance of the Homestead Act of 1862.

It is not enough to recognize only the economic and political factors in the social process; there is another, a more important phase, the psychological. Some day the historian will make use of the valuable tools which have been prepared for him by theoretical, physiological, experimental, pathological, and social psychology. Antiquated conceptions of human nature will be replaced by scientific knowledge of human behavior. A true understanding of history cannot be had without the application of modern psychology. Nor is it sufficient, as McDougall has pointed out ". . . for the historian and the political philosopher to be willing to recognise the mental factors in the phenomena with which he deals. It is necessary to recognise that these factors are of overwhelming importance, and that they cannot be satisfactorily dealt with by aid of obscure and confused psychological concepts of popular thought and speech. We must recognise these political problems for what they truly are — namely, psychological through and through, and only to be attacked with some hope of success if we call to our aid all that psychological science can give us."[47]

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[45] For an interesting account of the struggle the South had during the Civil War to uphold these rationalizations, see Stephenson, N. W., Atlantic Monthly, v. 123, p. 750.

[46] Rhodes, *United States*, I, 52–3.

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[47] McDougall, *The Group Mind*, 99.

A CASE OF MULTIPLE PERSONALITY: HYSTERIA OR DEMENTIA PRÆCOX?

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ONE of the shadow lands of psychiatry lies between schizophrenia and the psychoneuroses, and in it are found many perplexing problems in diagnosis. There is reason to believe that where their extremes meet, these relatively malignant and relatively benign conditions are much the same. Both may have a similar etiology and up to a certain point show identical psychogenic mechanisms. In such cases much of the mental effort and diagnostic acumen spent in trying to force a given patient into one group or the other seems futile, and might be better spent in tracing the devious psychological paths over which the psychosis had developed for the purpose of estimating prognosis and determining treatment.

The case presented in this article seemed of interest on account of a mixed clinical picture of major hysterical states and schizophrenic trends. While at no time was the patient accessible to systematic study of the evolution of her disorder, from her behavior and spontaneous conversation a fairly clear understanding could be gained of the conflicts which determined the nature and development of her symptoms.

Miss D., a single woman, thirty-seven years of age, was admitted to the Boston Psychopathic Hospital December 21, 1921, on account of a change in personality developing over the previous four years, with episodic emotional and convulsive phenomena of hysteriform type, culminating in freakish behavior which brought about ridiculous and humiliating situations for the patient and her family.

She was born of Irish parentage and had always lived under the parental roof in the vicinity of Boston. Her family were in moderate circumstances, but the home atmosphere was above the average in refinement and culture for the wage earning class to which she belonged. She was the fourth of nine children, of whom a brother two years her senior and three younger sisters were living. The father had died seven years previously. One sister shared with the patient the apartment of the widowed mother, and another, a married sister, lived in the same house.

In her developmental history she was not considered peculiar or differing excessively from her sisters. She was rather overmodest as she grew older, rigid in her adherence to the social conventions, and strict with the younger girls, who considered her oversight Puritanical. Family pride was a dominant feature and she stressed for herself and the others that type of behavior which implied good birth and breeding. She was thoughtful of other people, took more than her share of responsibility in the home and was looked to for advice by both father and mother. She appeared satisfied enough with her life, was gay in spirit and popular with her girl friends, though she had the reputation of being somewhat high-handed. She was busy and active and not given to day-dreaming.

With men she was distant and ill at ease. It was said that at eighteen if she dropped a parcel on the street she would leave it rather than stoop to pick it up if a man were looking on. At home she would not tie her shoe string in the presence of even an intimate family relative. She was thought by her family to have less interest than other young people in the usual type of social life.

She finished the eighth grade in public school at the usual age, and, while not considered backward, she found the work more difficult than did her sisters. She showed no interest in entering high school, though the others all attended several years and she might have done so had she chosen. In religion she was a Catholic and normally devout, showing no overzealousness till the beginning of her present trouble. All her recreations were of a quiet order consisting chiefly in visiting at the houses of friends or entertaining them in her own. She always reported in detail to her mother concerning these activities and was never out late at night. It was said that she had probably never been in a hotel dining-room in her life. She was fond of music and a pianist herself of considerable skill. In reading she preferred a rather virile type of fiction such as tales by Rex Beach and Richard Harding Davis. She was devoted to the Sunday newspapers and had from that source extensive acquaintance with the doings of American society and foreign royalty.

After leaving school she started work as machine operator in a wholesale dressmaking establishment. She was steadily employed till four years before admission, but showed no special ability or ambition and never earned over twelve dollars a week. She had no love affairs as far as the family knew, and only once had any man paid her special attention. That was six years previous and she discouraged his interest.

Her early medical history was not significant. She was considered to be in good general health and there were no serious infections. Menstruation was established at sixteen and was regular, with normal flow, but accompanied by considerable pain and sometimes nausea. These symptoms had become less troublesome as she grew older.

Her present illness dated from the summer of 1918. At that time she left work partly because she was tired and nervous and had lost weight, but chiefly to be with her mother and brother on a near-by farm which the latter had purchased for market gardening. She seemed to improve under the out-door life, but in the fall after returning to the city she began to show marked changes of personality. She became thoughtless, irritable and "flighty." She was unruly and antagonistic in her relations to the family, and did odd and impulsive acts in marked contrast to her former conventional behavior. She often left the house suddenly at unseasonable hours and took long walks; she showed some eccentricity in her dress, and intruded in a rather rude way on conversation between others. At times she brought home boxes of candy and ate it all greedily. Again she would sit down to the table before the others and hurry through a meal. She did not appear depressed nor did she shun company except on her solitary walks.

Through the winter of 1918–19 she showed marked zeal in religious matters and went to her church four or five times a day. She also talked of going into a convent. For some months at this time she was obsessed with cleansing rituals, washed her hands "every fifteen minutes" and took a bath several times daily.

On March 10th without warning or known cause, while sitting quietly in the room, she suddenly started screaming and continued for two hours. She made some attempt to get out of an upstairs window and struggled vigorously with members of the family who restrained her. Immediately following this episode she became mute and did not speak for a period of five months. During this time she appeared quite normal in other ways and would occasionally sing though refusing to talk. She helped some with the housework, went out for walks though never unaccompanied, and appeared to enjoy jokes and fun. She read a great deal and accomplished useful sewing. At times she would write notes on request, but seldom completed her theme. In her retrospective account of this period she told her physician that it seemed as though she "both couldn't and shouldn't talk," and that the condition she was in was a "general disorder which was going to pass away and I should keep quiet till it did." Her reading at the time was at first mostly in the prayer book, but she gradually gave up her excessive religious interest and also her cleansing ceremonies.

On August 7th a convulsion occurred. The patient was sitting on the porch and was brought an eggnog by her sister. She jumped up quickly, threw the drink over the rail and went inside the house where she lay down on a couch and began to sing. Suddenly she stiffened and became unconscious, remaining so for a period of two hours. The muscular rigidity and a shifting mental contact lasted all the afternoon and evening. Her face was cyanosed at first but there was no biting of the tongue, clonic movements or incontinence. The whole incident was spectacular and alarming, and the family thought she was dying. She slept quietly all night and in the morning her speech had returned. For the week following she seemed perfectly normal in every way, her disposition and conduct conforming to her old habit.

After this week of calm, eccentric behavior reappeared. She made calls on families with whom she had but a distant acquaintance and engaged in animated and intimate conversation. At church instead of entering unobtrusively as of old, she walked down the length of one aisle and back another seeming to enjoy being conspicuous. She continued to take long walks, sometimes in the evening, and was quite defiant if any attempt was made to dissuade her. Sometimes for weeks at a stretch there would be no odd behavior, but the episodes occurred often enough so that the family never knew quite what to expect. She talked a great deal during this period of love and marriage in a joking and rather bold manner, but this type of expression seemed to be confined to her own home and she did not get into any sentimental difficulties.

During the summer of 1920 she again lived with her mother and brother on the farm. She was able to take full charge of housekeeping and marketing, and hospitably entertained considerable company. She was, however, slightly queer in her dress and continued the desire to display herself when in church so that it was the custom for one member of the family to keep hold of her arm while entering or leaving, and to sit between her and the aisle. Throughout the winter of 1920–1921 she got along fairly well at home, but was disagreeable and unreasonable at times, and airy and lofty in her manner. She implied that the reason she did not work was because she was superior to the rest of the family and referred to them half seriously and half playfully, as satisfied to be "common."

In June, 1921, she had a second convulsion and was unconscious three hours. When she regained her senses she began talking animated gibberish and continued for some minutes. This was the first evidence of neologistic production. All the following summer she remained quite her normal self except for one short period of gibberish during a thunder storm. In September she had a third and last convulsion and came out of it talking jargon. She was "raving all night" and had to be held in bed.

From that time on she had spells of gibberish talk every day, appearing without evident cause and lasting from a few seconds to a few minutes. Her eccentric and impulsive behavior became worse than ever. Several times she threw objects at her sisters or mother and was childishly antagonistic if crossed in any way. She had taken her symptoms quite lightly up to this time, but now began to show concern over them and begged to be taken to a hospital. October 1 she was admitted to a private sanitarium, which she left without warning after six weeks' stay. While there the most striking thing observed by the physician in charge was her lack of interest and curiosity in her condition. She continued her gibberish talk at intervals, but otherwise fitted in fairly well with the exception of one incident of excitement, when she chased another patient to whom she had taken a dislike, threatening her with bodily harm.

She eloped from the sanitarium apparently without premeditation and walked five miles to her home carrying two grips. She was permitted to remain, and from that time to her admission to the Psychopathic Hospital a month later, she got on quite well except on three occasions, two in church and one in a theatre, when she broke out in excited talk in a manner to cause considerable disturbance. She also took a candle from the church and seemed to have no realization of the violation of etiquette which this act represented. Afterwards in giving her own reason for the theft she said, "It seemed to me all departed souls return to the Catholic Church. I once saw a vision of a cross with all lights around which seemed struggling souls. The candle flickering seemed my own soul." To complicate matters she again insisted on taking evening walks in unfrequented localities and fears were felt for her safety. She appeared worried over her condition and came willingly to the hospital. She told her sister that she "would rather be dead than suffer so, to be apparently intelligent, and then go off in a moment like an insane person."

On admission she was quite normal in manner. During physical examination she was over-modest and hyperæsthetic. No abnormalities other than hyperactive tendon reflexes were revealed. Hysterical stigmata were absent. When the routine pelvic examination was attempted by a woman physician, the patient went into a convulsive attack with much struggling and had to be returned to the ward. She was apologetic for this demonstration a few hours later.

Her behavior from the standpoint of ward observation showed three types: a first which was normal; a second one characterized by odd acts; and a third which included episodes of excitement. In the first she was quiet and refined, busied herself in the usual ways and seemed tranquil and satisfied. This phase at the beginning was much less in evidence than the others, but as time went on it took more and more the ascendency, till for six weeks prior to her discharge on April 9, four months after admission, she showed no abnormality to casual observation.

The second type was characterized by such acts as quietly trying the doors of the ward or standing in a constrained manner in out of the way places. At times she was found lying under beds, at others she would be seen on her knees in attitude of prayer. She was careless about exposure of her person, and would lift her skirts high when going over the stairs, or get out of bed improperly covered. If spoken to by nurses she was often pert in reply; with other patients she was ironical, sarcastic and flippant.

The excited periods of the third type varied in intensity and duration. Sometimes she would dance about the ward in extravagant manner but with solemn countenance. Occasionally she attacked other patients in a harmless, hair-pulling way. A few times she ran amuck, leaped over beds, tore down and threw objects around, and fought physicians and nurses, but again seemed to avoid inflicting real injury. On two instances she showed for a day quite typical manic episodes, with elevation of mood and constant motor activity. She was destructive to bedding and clothing and bedecked herself in an outlandish manner. All the incidents of excitement were strongly tinged with the ludicrous. She was often contrite and apologetic, although never humble, following these scenes.

In formal interviews she showed a three-phased personality, changing suddenly from one to another, or presenting shifting combinations of two or all three in kaleidoscopic variety. Phase A was what from her history appeared to be her normal self. She was quiet-spoken, ladylike and alert; respectful to physicians and appreciative of attention. This phase was difficult to maintain. If other than impersonal matters were broached she shifted to some other state in which she was entirely different.

Phase B was characterized by the production of neologisms and was striking and spectacular. It always started and ceased abruptly. She would change in a moment from a subdued and reserved individual, if she happened to be in phase A, to an exactly opposite picture. She became animated and vivacious and poured forth a rapid stream of gibberish with abundant and expressive emphasis and with extravagance of gesture and facial expression. These periods lasted from a few seconds to a few minutes, and varied in frequency. At times they recurred so constantly as to make interview impossible, again they occurred only once or twice or not at all. This phase was more apt to arrive if personal matters were under discussion, but it seemed to be precipitated by no special topic or circumstance, and often appeared quite spontaneously. Usually her talk was directed to examiner, but occasionally she seemed quite oblivious to any presence and talked to the empty air as though hallucinating. However, she quite consistently denied afterward that such was the case.

At first owing to the fact that her strange language was so smoothly constructed, it seemed possible it might represent some unfamiliar tongue, but this proved not to be the case. No special meaning could be obtained from the patient for any of the phrases. She would often give a glib interpretation but never was consistent and would as freely give another explanation a few hours later. There was no amnesia for these periods. At times by sharp command she could be brought out of them. Always she could repeat test words which had been given, or remember other incidents of the occasion, even when she paid no attention at the time.

Her own attitude toward phase B was rather superficial. She looked upon this talk as curious and rather boresome, but not as a subject for special concern. In her flippant moods she referred to it as representing the "best part of her nature," and once said, "maybe it is vulgar talk but nobody can understand." This phase after the first two weeks of hospital residence gradually became more infrequent, and disappeared entirely during the last two months.

Phase C was less standardized and distinct than the other two, and presumably may have included several states which were not clearly distinguished. In spite, however, of bursts of excitement and odd acts, the general level of attitude and behavior during this stage was fairly consistent. She was flippant, gay, affectatious, coquettish and showed hosts of mannerisms. She was eager, spontaneous and witty. It was impossible to hold a serious conversation as she refused to stick to the subject and indulged in much ridiculous talk. She always managed to create something of an erotic atmosphere by manner or conversation. She was spirited and stubborn in discussion with physician, and high handed in her relations with nurses and other patients. Much of the mental examination during the first few weeks, and in fact all during her stay, had to be carried on during this phase.

Phase D was seen once or twice the first few days, but did not recur. On those occasions she assumed the appearance of a little child, with whining, shrinking manner and baby-talk.

The patient's stream of talk in phase A was coherent, relevant and pertinent. There was little spontaneity, and it was difficult to get a sequential history, as she tended to wander from the main threads of her life story. She was quite self depreciatory in some respects, referring frequently to her lack of educational and cultural advantages and commenting on the superiority of members of the staff in that regard. She had a superficial knowledge of classic literature and an extensive vocabulary, though often mispronounced words which were otherwise used correctly.

In phase B her talk was usually a steady running rapid stream without break of any sort, a typical glossolalia. Occasionally she stammered and words seemed to stick in her throat. The following is an attempt at phonetic representation. "Anegwan-im-is-whenimisame" (repeating the last several times). "Migitopania-welegasome-polysotanse-onigophoton-ineligovasotomectomy-weheis."

In phase C there was great variation in her utterance. Much of the time it was coherent and relevant, but given in a vivacious and coquettish, or a simpering and affected way. At other times she was moderately incoherent, and again completely so. There were also illustrations of distractability and flight. On one occasion when in phase B she was given the stimulus word Columbus, in order to test her power to repeat it later. She immediately stopped the gibberish, changed to stage C and said, "Columbus, Columbus, Columbus, — Isabella, she sold her jewels, you should be a teacher in a boys' school,—

I'm trying to explain and it seems to be something I'm trying to do, perhaps for my church."

A favorite trick was to turn the conversation to a discussion of the physician, making comment on his personal appearance or general qualities, complimentary and otherwise. At times she made somewhat intimate advances, putting her hand on his knee or seizing the lapel of his coat, but never went beyond these playful familiarities. During the first part of her hospital stay she would suddenly break in on ordinary conversation with entire change of subject, and in high pitched voice, narrate some fanciful tale. While doing so she would often rise from her chair and walk hurriedly about the room, but her manner was always more playful than distressed, and only once did she seem out of touch with her surroundings. The following are examples of these productions: "He killed her on the battle fields of France, he stabbed her from behind." Urged to amplify this theme, she told a disconnected story in breathless haste: "Fourteen people all lived in same house — never anything so wicked or actions so dreadful; invited people there and said do not tell your wife. A good time party, he would never go there again." She became more excited, smiled, frowned, and repeated, "To him, to him," many times, staring as though hallucinated. She rambled on about thirst and pain in the neck, then sang with affected voice. Continuing with the story, she said, "They went to Budapest, then Monte Carlo, she was a peach, he a great big man; she was a love, she is charity. He was a married man; they had a home on Long Island and shooting occurred; it was jealousy. They escaped in a boat from Ireland; he was not justified, she was beautiful. They came back to New York; raised hell in New York; he was a son-of-a-gun, he was captured and freed." She then talked of her admiration for the English people; their vine-covered cottages; their modesty of dress; her respect for Queen Mary. Then she added, "I love Queen Victoria because she loved Albert, I love every one who loves their husband, especially when they have sponge-cake for supper. Do you like sweet potatoes?"

At another time when asked some question about her social life she said in loud voice, "Wine and flowers, shoes and stockings; kisses; home in limousine, dump me in ash can, back yard; footman comes to the door, 'walk in'; Mutt and Jeff are there." Again she watched the physician taking notes for a time, then broke in with, "China, Japan and Austria; you are there scribbling, I am cleaning out the water-closet; I go and play the piano and get the keys all dirty; I like to clean out water-closets."

One afternoon after a longer period than usual of straightforward discussion, she glanced out of the window at a neighboring house and said, "Blue sky and balconies; Juliette in a balcony, would you play Romeo to my Juliette?" When taken to task for such foolish talk, she responded sharply, "There is nothing foolish about it, Juliette is a human emotion, every woman has it; I have a perfect right to it." She resented being told she could control herself and said, "I've been a devil in a way, I would have liked to jump off." She then added with elaborate sarcasm, "Oh, yes, Miss D" (referring to herself) "is a very quiet girl." She irritably denied having nervous trouble, saying, "I would not change nerves with King George or President Harding; I have attained everything I desired; now let the State use me if it wants to." It was impossible to follow up these topics, the patient always took refuge in change of personality, or in flippancy, coquetry or specious philosophizing.

Once when discussing a vague reference she had made to some special spiritual significance in her experiences, she remarked in ecstatic manner, "Judgment Day has come; it gives me wonderful sensations of the kind I'd like to do manure all over the bed," then added, "married people know better about such sensations." On the topic marriage she again said, "I think marriage is rotten, coarse, vulgar, the worst thing possible, terrible, horrible; but it really must be wonderfully sacred and beautiful or Almighty God would not have created this institution; I think it would be delightful to be married from the waist up." These crude vulgarities were infrequent and in striking contrast to her usual type of talk. Although she constantly drifted to erotic themes her manner and language were, as a rule, not coarse.

Her intellectual functions gave no evidence of any disorder when her attention could be held to the tests, except that on a few occasions she seemed disoriented. At other times she wilfully gave false answers to questions on orientation, but showed in other ways that she was in good contact. Psychometric tests gave a normal mental level.

In mood, she varied from tranquil good humored serenity to swings of gayety and tense hurrying animation, mixed with occasional flashes of defiance and irritability. She never showed depression or anxiety, even when she could be held to a serious consideration of her illness.

Clear cut delusions and hallucinations were difficult to establish at any time while the patient was under observation. There was a history that in the fall of 1918, just at the beginning of her illness, she came home from Boston crying and much upset because people on the street had been talking about her. She reported that they spoke belittlingly of her ancestry, and said "she need not feel so superior." She talked of this matter for a week or so, and then dropped it altogether and no further ideas of reference occurred. She discussed this whole topic freely with physician in retrospection, laughed about it and appeared to have complete insight. She remarked, "I often think how ridiculous it was to feel that way, just crazy."

Detailed examination of the mental content was difficult owing to the inaccessible or flippant states which dominated the clinical picture. It was often impossible to hold her to serious discussion for more than a few minutes at a time. Repeatedly it appeared that distinctly pathological material was present only to have it vanish in thin air when carefully followed out. She related a number of hallucinatory episodes, mostly of religious significance, and each sharply circumscribed. In describing one which occurred six years previously, she said, "I heard sweet little voices, they may have been angel's voices, they may have been imaginary, I was not awake, I heard them calling and answered and said I was coming." She also told of a vision when a woman came to her bed one night while she was suffering from the tooth-ache, put her arms around her and cured her swollen jaw. She commented, "If this was a dream it was the realest one anybody ever had." She also told of waking in the night some years before, bathed in perspiration and finding the bed clothes pulled down from her shoulders. She implied some man may have visited her, but denied any body sensations or other evidence of attack. These incidents were always told in the same way and there was no attempt to elaborate them. The patient herself seemed to attach to them only minor importance.

She at times vaguely admitted some hallucinatory experiences during her periods of excitement, but never became specific, saying, "It is something that can't be explained, a side to everybody that belongs only to the self." By her manner she appeared to be referring to the intuitive or spiritual side rather than to crude sense deceptions.

In addition to these fragmentary phenomena, throughout all study and observation one consistent trend of thought persisted, namely, that she was in some way marked out for special spiritual purpose. At times she discussed this topic with nearly complete insight, again she showed rather crude delusions of saintship and special destiny, all of it obscured and distorted by flippancy and fabrication. A dream which she had just before her father's death seven years before, played an important part in this system of ideas and she frequently referred to it. In the dream she was riding on a trolley-car with her father. They came to a lake, across it the sun was setting; she left her father and started home on foot; she seemed to be next in a large music hall; suddenly the roof opened and white-robed figures on white horses came drifting through; she felt it must be Judgment Day. She stated that at times she looked upon this dream as of great importance, at others she felt it was foolish. In discussing this theme, several times she connected her father with God, and said, "Why was he in it" (the dream) "he was an insignificant person; he was a good man, probably had a wonderful soul, but he had no education and polish." Once she said, "If my father was God, he did not know his business very well. I wonder if there are two Gods, yours and mine, one for those of polish and culture."

On one occasion she said petulantly, that she regretted having the dream, it bothered her conscience, and added, "My conscience seems to be all there is of me at times." She told how her church had taught her that the most important thing on earth was to save the immortal soul; she had heard of saints that had been canonized on account of visions or dreams, and implied that she herself might be marked for saintship. "Me or my father," was the answer she once made to a direct question, and continued, "I am willing to wait till I am eighty years old."

She said one day that her impulses to do strange things came direct from Almighty God, "He makes a fool of me as far as the world is concerned but does the world understand God as I do?" She then laughed and retracted her statement, saying, "I don't understand any better than you do, but I have a faith and trust that all things are done by Him." At another time she said with positiveness that either God or Madam Curie were making changes in the world (with reference to herself): "If it's radium it's Madam Curie, if it's electricity, it's me." At this interview she implied some electrical feelings in her body, chiefly in relation to the pelvis, but never brought up the matter again or would admit it on questioning.

In one of her serious moods she remarked, "It is a positive fact that I see what others do not of the hereafter; it gives perfect happiness, but do you know what it has cost me, a lot of suffering during these last two years; I am grateful enough to spend half my time on my knees." In similar mood she said, "I had rather be groping around like other people than to have my eyes wide open; I did not want it, I could save my soul like other people."

Repeated attempts were made during the last part of her hospital stay to bring about some insight concerning the psychogenic mechanisms operating in the production of her symptoms. This was apparently unsuccessful although she showed no lack of friendship or respect in these interviews. She either skillfully evaded such discussion or spiritedly contradicted physician's statements, maintaining that all her symptoms were due to physical causes, or implying that there was some purpose in them beyond the comprehension of any other person.

She emphatically refused hypnotic treatment, saying that she "had to fight the devil every minute of the day and did not want any more trouble." She was reluctant to discuss her dreams, giving sometimes as a reason that she did not wish to corrupt physician's morals.

During the early part of March she for the first time expressed herself as hopeful of getting well and referred to her condition as, "crazy, foolish sickness." There still remained a buoyant, roguish gayety and peculiar, sharp humor to all her attitudes. Queer behavior of minor order persisted to the last. One day she removed part of her waist and sat about with arms bare to the shoulder. On another she wore a cape with flaming green lining wrong side out. She once with perfect solemnity handed a physician an empty envelope, saying it was pay for his services. Two weeks before discharge she referred to the cross she had to bear, said it was a cross of flowers, "a sweet cross even if a good deal of filth in it." Then laughing, she said, "It is God's will, however, and I don't mind following the divine will after I have sowed my wild oats." She continued, saying that up to seven years before her mind dwelt on purity, then a sudden change came and she thought of evil things, "a pig pen was clean compared to me." She stated that she then changed from a "young giddy thing," to an old woman, and ever since had been swinging from one extreme to the other, "not able to obtain the poise of middle age."

Sex history brought out nothing of special importance on the objective side. She talked fairly frankly on the subject. Some instruction was received from her mother and she acquired other information in the usual way, without special conflict or morbid curiosity. She denied auto-erotism or other sex experience, saying she had impure thoughts at times, but otherwise had "done nothing wrong." She did not admit any sex passion, and showed no interest whatever in the subject of maternity. She volunteered various opinions on the subject of relationships between the sexes, saying she did not believe in kissing a man till the engagement ring had been produced, and then only once or twice before marriage; commenting humorously that otherwise a girl might lose him. She then added rather sharply, "I don't know if it is necessary for me to tell you if I ever sat on a man's lap."

At one interview she gayly confided, "Since five years old I have had a fatal weakness for men. I would like to be a butterfly and light for a moment on everybody's head." At another time she spoke of thinking of marriage and of "getting relief by wandering off into other realms"; and continued, "It seems as though I would go mad thinking of such things." In talking of a minor love affair occurring six years before, she said, "It seemed I was not to be anybody's wife, but should go on alone; it gave me great happiness; a feeling as though one had come to a new life in sympathy with the world and a very small place would do."

A lack of self-consciousness was at all times a striking feature of her demeanor. She was noticeably unaffected in both her calm and excited moods by the manner and opinions of nurses and other patients. In her relations with physicians she never showed embarrassment, humiliation or chagrin.

Some additional information concerning family history and relationships was divulged as time went on by the patient, and corroborated rather reluctantly by the sisters. The maternal grandfather belonged to the group of landed gentry in Ireland. He was an eccentric, bookish man, and married rather late in life a young woman of good character but uneducated and of lowly station. This match was opposed by his father and resulted apparently in a permanent estrangement. The patient's mother was brought up in comparative luxury and was well educated. She in turn married a man much beneath her in the social scale, a farm laborer with little education. The patient said her father was chosen because he was the best looking man in the village.

The young couple were thrown on their own resources and emigrated to the United States before any of the children were born. They appear to have been quite happy together, at least there was never any serious discord. The father was periodically alcoholic and lost some positions on that account. During the patient's early years he was employed on a large private estate in the country and she observed in that way something of life on the upper social level. Later on he was employed in unskilled positions in machine shops.

The patient while under observation showed the greatest admiration for her father. She referred many times to his fine looks, his physical strength and manliness. She said he had a harsh side and a gentle side, and the children were always a little in awe of him, although he left discipline chiefly to the mother. He was never in any sense a chum of his daughters and relations were always formal. He was a religious man although he never spoke of this subject to the family. During his later years he spent at least an hour each evening in solitary prayer. The patient laughingly remarked that, when drunk, he took a rosary to bed with him, and added, "He was something of a sport in his day." Other members of the family said that he looked to the patient for advice and counsel and by no means dominated her.

The mother was described as a quiet gentle little woman, quite strict and holding her daughters up to high standards in every respect. One of the sisters said, "Nothing we could do except the very best could satisfy her." She and the patient were always on good terms, but never intimates.

The only brother, two years older than the patient, was very bright in school, obtained a scholarship at Georgetown University and was ambitious to succeed in the law. Owing to some sort of nervous breakdown, he was forced to give up his education and content himself with a quite humble station. He never married. His sister expressed admiration for him only second to that for her father, and when in her obstinate and irritable states he had more influence than anybody else.

SUMMARY AND FORMULATION OF CASE

As is evident from the foregoing account, it was difficult to analyze and clarify this case. The patient herself was an uncertain and unreliable source of information. The whole clinical picture was scattering and fragmentary, and beyond some general topics the trends of thought and interest were elusive. However, it seemed possible to construct a working hypothesis from the material available, which was of value in establishing order and unity.

The conflicting elements of human nature present in all individuals were excessively marked in this patient from childhood, and developed into two strongly diverging groups of tendencies. Finding insurmountable difficulty in integrating these opposing trends into a satisfactory whole; one of the groups was selected as her official personality and as far as possible everything not in harmony with it was repressed. For many years she maintained this personality on the surface, permitting her family and friends, perhaps even herself, no inkling of what was going on underneath.

She was quiet, home-loving, dutiful and strict in the conventions. With men she was shy and retiring. There was present at all times an exaggerated pride with feelings of family superiority together with strivings for social and cultural levels beyond possibility of achievement. These ambitions did not prevent an appearance of satisfaction with her life as a girl and young woman, although she later referred to an underlying discontent during those periods. No doubt her feelings were in part determined by her knowledge of the social standing of her ancestors on her mother's side. A natural timidity, lack of special abilities and a rather rigid bringing-up, together with her strict religious standards, aided in holding her to the humdrum life of home and shop.

The repressed side of her nature was full of longings for excitement, adventure and romance, with desires for the flesh-pots and high places. Not all was tranquility beneath her calm exterior. According to her own story she went through a series of violent attachments to various men, the beginning at a tender age marked by an affair with the butcher's boy. In all cases she worshipped from afar and the objects of her adorations were never aware of them.

She stated that in her girlhood she could never consult a physician in his office as other girls did because she felt, "I might think he wished me to sit on his lap." In her twenties she developed a habit of painfully blushing if addressed by men, being noticeable even in relation to shop foremen and others whose proximity she could not well avoid. The excessive prudishness and modesty point of course to compensatory expressions for opposite tendencies of equal vigor. The undue religious activity and obsessive cleansing rituals shown for a period may be looked upon as the symbolic staging of an acute struggle with what she considered were unworthy and impure desires.

At times in fancy she consorted with the mighty. She devoured the Sunday supplements dealing with society and royalty, and said, "On Sunday especially, I live with the elect of the world and roam far from my shed and kitchen."

On the objective level she was able to get along with these insecure adjustments until shortly after her father's death. Coupled with this bereavement was her advance toward middle age with the consequent waning of the hope that better and more glorious things might come into her life. Here were new difficulties to adjustment, and opportunity was given for the repressed side of her nature, systematized into something of a personality in itself, to break through the repressing forces and find expression, albeit a distorted one. Phases B and C appearing during her psychoses may be interpreted as dissociated manifestations of this other personality. It is interesting to note that she seemed to those around her much happier after the alternating personality states were once well established.

The marked ambivalent attitude toward sex matters, with obsessive interest on the one hand, and exaggerated repugnance on the other, needs more than a superficial explanation. Cause for such a condition could reasonably be ascribed to past experiences of a sexual nature which had assumed a place in the total personality highly charged with conflicting emotions. Another possible factor from the standpoint of Freudian psychology would be some interruption or twist in psycho-sexual development, resulting in the necessity for facing adult sex problems with immature emotional attitudes. If the history in her case, of complete freedom from objective sex episodes be accepted at its face value, then a reason may be found in the second alternative. Some incestuous attribute to her love-life in the way of a father fixation would furnish an explanation. There is much in the patient's relation to her father to bear out this hypothesis. Her excessive admiration and sense of awe, her emphasis on the significance of the dream in which he figured, the vague feeling that he might in some way be identified with the Deity, and the beginning of her symptoms shortly after his death all seem significant.

One ominous feature stood out in what would otherwise be a benign clinical picture. The patient showed a persistent tendency to look upon herself as specially marked by Divine favor, perhaps chosen for saintship, and at times regarded her symptoms as a series of trials for body and soul preparatory to that position. The looseness of this delusional system, and the absence of any but episodic hallucinations were mitigating features. At the same time the development of such ideas in order to give a satisfying justification for her conflicts and difficulties, denoted that a dangerous compensatory mechanism was in operation.

In spite of a degree of improvement which has permitted her return to factory work for the time being, prognosis must be considered far from certain. The seeming impossibility of aiding her in gaining insight, together with her strong resistances and persistent refusal to face the facts of the situation, are not favorable. On the other hand it may be hoped that if satisfying work, recreation and service be established as an outlet for her love interests, the passage of time will dull the intensity of the instinctive fires which burn within, and give an increasing serenity for meeting the prosaic life which lies before her.

This case has been discussed on the assumption that psychogenic factors were alone responsible for the pathology. Such an assumption is not wholly warranted. The problem remains as to whether the dissociation, and reintegration in the form of new personalities was related to deeper lying organic processes. If the latter, was the organic process primary, and simply co-operative in the sense of permitting the dissociation and resynthesis, or were the organic changes induced by the functional conflicts? Such questions must for the present remain unanswered.

REACTION TIME AS AN INDICATOR OF EMOTIONAL DISTURBANCES IN MANIC-DEPRESSIVE PSYCHOSES[1]

BY HELGE LUNDHOLM

EXPERIMENTAL RESEARCHES FROM THE PSYCHOLOGICAL LABORATORY OF THE MC LEAN HOSPITAL, WAVERLEY, MASS., 1921–1922

THE aim of the experiments reported below was to find a sensitive indicator of emotional disturbances in mental patients. As such an indicator simple reaction times to a sound stimulus were tried. The theory involved was that the emotional disturbances would in some way impair that maintenance of attention to an instruction that is necessary for the obtaining of a short and steady reaction time.

The patients who took part in the experiments were followed as far as their reaction times were concerned for periods varying from about two to about seven months. The results obtained in each instance were carefully compared with the clinical condition at the corresponding moment. Curves with the time as abscissa were developed for the laboratory results and commented upon all through the periods by the corresponding clinical observations. The latter observations were made independent of the experimental finding by the doctors in charge and, as a further check, by the nurses on the wards, who rated the conduct of the patients in accordance with the scheme worked out by Dr. J. S. Plant.[2] The experimenter is highly indebted to all the members of the Staff of the hospital and to its nurses for their kind co-operation.

In order to get a homogenous group of subjects and a group in which the emotional disturbances represent the predominant feature, a number of patients suffering from manic-depressive insanity were selected. By way of comparison, two normal subjects were followed over the entire period.

The instruments used were an ordinary telegraphic key, a Knight-Dunlap chronoscope, driven on a fifty-vibration tuning fork, and a sound hammer.

Reaction times were taken twice a week for each subject. For each sitting ten reaction times were taken and the average and standard deviation of these ten readings calculated on each day of experimentation. If the first, or the first and second reading of ten were longer than the rest they were excluded and substituted by others at the end. The same was done for fore-reactions, although the number of the latter was always noted down. If an anticipated reaction was followed by one which was considerably longer than the average of the series, it was excluded. Two warning signals were given by the experimenter before the stimulus was applied. These were the words "ready" and "set." The time elapsing between the two words and between the latter of them and the sound stimulus was approximately two seconds. The patient was instructed to press down the key at the word "ready," to keep it down on the word "set" and to let it go as quickly as possible upon hearing the sound click. Furthermore, the patient was instructed to keep the attitude which gives the reaction of the motor type. The experimenter is doubtful as to the maintenance of this attitude by some of the patients. All patients used the third finger of the right hand. The time for each sitting was approximately two minutes.

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[1] Read at the meeting of the Boston Society of Psychiatry and Neurology, April 20, 1922.

[2] J. S. Plant: "Rating Scheme for Conduct." The Am. J. of Psychiatry, April, 1922.

At the close of the experiments the periods in each individual's development were determined on the basis of the clinical observations. For the corresponding times the significant values of the laboratory results were calculated. As "significant values" we have characterized the following:

MM — The average of the averages for the different instances of experimentation over a certain period.

SDM — The standard deviation of the averages for this period.

MSD — The average of the standard deviations for this period.

SDSD — The standard deviation of the standard deviations for this period.

These four values, together with the standard deviations from each day, without doubt indicate the degree of steadiness in the performance for the period, and are, according to our theory, the important factors to consider and to compare, both with the individual development and with the development of different subjects.

In all sixteen subjects were used, of whom fourteen were psychotic. In turn these fourteen may be sub-divided in accordance with the different phases of their development during the experimentation. Thus we have the following grouping:

A. Normal Subjects.

1. Lun. Male. Age 31 2. Whi. Male. Age 27.

B. Psychotic Subjects.

I. Mad. Female. Age 55. Chronic manic.

II. Mild depressions.

1. Pai. Male. Age 60. 2. Hul. Male. Age 35.
3. Fra. Male. Age 40.

III. Starting as extremely manic and then quieting down gradually towards a normal condition.

1. Mil. Male. Age 33. 2. Hin. Male. Age 25.

IV. Starting about normal or mildly manic, then going in and out of one or more manic excitements.

1. Sew. Male. Age 46. 2. Dav. Female. Age 49.
3. Cou. Female. Age 44.

V. All. Female. Age 62. Starting mildly manic and then going into a mild depression, and finally back into a mildly manic state.

VI. Agitated or restless conditions on the basis of different moods.

1. Wil. Female. Age 35. 2. Per. Male. Age 47.

VII. Probably hebephrenic dementia præcox.

1. Dor. Female. Age 21. 2. Whit. Male. Age 26.

Of all the subjects used in the experiments, ten are males and six females. Of the subjects belonging to the manic-depressive groups seven are males and five females.

The tables given below show the averages and standard deviations of the ten reaction times for all the different instances of experimentation for each subject. The first column in each table gives the averages and the second column the standard deviations, all expressed in sigma. The horizontal dotted lines in the tables indicate the periods in the development in each case on the basis of the clinical records. The capital letters at the side of the tables indicate things which will be discussed as we make the individual descriptions for the different subjects. The tables do not include the results obtained from the period of training. Such a period preceded the real time of experimentation for each subject. Tables are given instead of curves for the reason that the latter would be very considerable in size and difficult to publish.

The method in treating the material will be first to study each individual separately, following this with a comparison of the subjects, one with another. In this way we may determine what is constant and what is variable in the different type groups. Each of the psychotic subjects will be treated under the following headings:

Clinical record
Laboratory record
Discussion

Under the last of these headings the generalizations will also be included. Whenever the "laboratory curve" is spoken of we mean an imaginary curve developed out of the tabulated material with time as abscissa and averages and standard deviations as ordinata.

SUBJECT PAI.

Feb.	4	160	45	L
	8	149	37	L
	11	155	82	L
	15	137	10	
	18	133	12	
	22	133	8	
	25	143	36	L
Mar.	1	126	5	
	4	127	7	
	8	124	8	
	11	128	6	
	15	133	8	
	18	130	9	
	22	121	6	
	25	125	7	
	29	128	6	
Apr.	1	138	41	L
	5	129	7	

SUBJECT HUL.

Feb.	1	163	7	
	4	165	10	
	8	168	16	
	11	160	8	
	15	160	11	
	18	178	28	L
	22	143	6	
	25	164	24	L
Mar.	1	150	6	
	4	146	9	
	8	159	12	
	11	152	10	
	15	160	27	L
	18	159	27	L
	22	155	11	
	25	147	6	
	29	149	11	
Apr.	1	143	8	
	5	143	9	

SUBJECT FRA.

Jan.	28	184	18	
Feb.	1	214	85	L
	4	186	7	
	8	179	18	
	11	174	6	
	15	169	22	L
	18	199	44	L
	22	185	20	L
	25	178	9	
Mar.	1	166	16	
	4	174	15	
	8	164	14	
	11	155	9	
	15	165	10	
	18	167	10	
	22	161	16	
	25	164	14	
	29	173	12	
Apr.	1	163	12	
	5	159	13	

SUBJECT MIL.

July	20	770	691
	23	876	518
	27	843	634
Sept.	24	569	373
	28	783	447

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Oct.	1	322	84
	5	597	258
	8	538	156
	15	250	105
	19	378	119
	22	235	27
	26	185	35
	29	230	28

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Nov.	2	170	19
	5	176	17
	9	251	84
	12	162	18
	16	160	19
	19	176	31
	23	169	23
	30	150	10

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Dec.	7	166	34
	10	174	12
	17	172	12
	21	167	32

SUBJECT HIN.

Aug.	12	238	68
	16	177	37
	19	202	46
	23	164	29
	26	164	48
	30	132	22

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Sept.	2	143	17
	6	168	19
	9	157	14
	13	133	15
	16	145	23
	20	131	10
	23	126	19
	30	172	25

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Oct.	4	148	19
	7	130	14
	11	159	21
	14	160	13
	18	153	16
	21	143	17
	25	151	9
	28	159	12

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Nov.	1	148	14

SUBJECT SEW.

July	18	123	15
	21	138	15
	25	144	18
	28	154	18
Aug.	1	139	12
	4	154	17
	8	158	18
	11	154	12
	15	132	15
	18	150	17
	22	160	7
	25	146	14
	29	148	12
Sept.	1	154	18
	8	148	15
	12	150	10
	15	151	13
	19	155	8
	22	143	17
	26	151	10
	29	146	8
Oct.	3	157	9
	6	151	13
	10	145	16
	13	150	13
	17	150	8
	20	160	10
	24	187	27

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	27	170	32
	31	154	12
Nov.	3	155	18
	6	150	16
	10	160	23
	14	167	35
	16	214	87
	17	262	132
	19	191	57
	21	188	66
	23	151	20
	26	190	48
	28	209	44
Dec.	1	191	36
	5	207	48
	7	174	11
	10	217	39
	12	174	15
	15	152	16
	19	160	22

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Jan.	3	140	11
	5	156	13
	7	158	20
	11	136	10
	14	157	14
	18	152	14
	21	156	43

Normal:

SUBJECT LUN.

Aug.	2	135	12
	5	110	15
	9	119	15
	12	121	12
	16	103	5
	19	131	5
	23	117	13
	26	122	11
	30	126	7
Sept.	1	124	10
	5	122	7
	9	118	9
	14	130	7
	16	129	9
	20	122	15
	23	130	6
	27	126	13
	30	133	8
Oct.	4	131	11
	7	126	11
	11	122	9
	14	130	9
	17	124	6
	21	126	9
	25	126	9
	28	120	9
Nov.	1	125	9
	4	126	10
	8	127	4
	12	123	12
	15	122	10
	18	129	7
	22	124	6
	25	120	9
	29	122	8
Dec.	3	129	10
	6	133	10
	9	134	11
	12	137	6
	15	134	8

SUBJECT WHI.

Aug.	9	131	9
	12	131	11
	16	103	7
	19	120	12
	23	139	25
	26	139	10
	30	123	14
Sept.	2	123	16
	6	127	12
	9	124	12
	14	121	7
	16	128	8
	20	148	27
	23	133	8
	27	135	6
	30	135	8
Oct.	4	129	9
	11	132	12
	14	139	6
	18	134	5
	21	133	7
	25	129	6
	29	133	17
Nov.	1	132	18
	4	125	9
	8	140	11
	11	132	5
	15	131	13
	18	135	13
	22	132	9
	25	128	11
	29	136	13
Dec.	2	143	14
	6	151	10
	9	140	10
	13	144	13

Insane:

SUBJECT MAD.

July	23	799	144
	27	813	140
	30	764	150
Aug.	3	905	183
	6	748	225
	10	704	150
	13	675	121
	17	840	162
	20	823	204
	24	650	75
	27	593	135
	31	594	66
Sept.	3	683	177
	7	705	178
	14	805	226
	17	634	77
	21	761	118
	24	795	107
	28	916	134

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Oct.	1	705	91
	5	696	85
	8	672	80
	15	670	98
	19	622	126
	22	657	46
	26	639	41
	29	509	42

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Jan.	14	553	180
	28	903	208
Feb.	4	819	112
	25	742	143
Mar.	4	657	53

SUBJECT DAV.

July	13	221	101
	20	188	50
	23	143	21
	27	249	90
Aug.	3	424	121
Sept.	15	236	64
	17	180	28
	21	286	113
	24	179	44
	28	205	88
Oct.	1	224	55
	5	238	26
	8	206	27
	15	167	9
	18	257	53
Dec.	1	221	78
	3	186	30
	7	383	123
	8	308	145
	10	247	95

SUBJECT COU.

July	22	169	25	
	25	152	17	
	29	168	16	
Aug.	1	162	18	
	5	162	30	
	8	153	22	M
	12	176	35	
	15	164	20	
	19	168	15	
	22	166	19	
	26	177	17	
	29	155	8	

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Sept.	2	171	10	M
	6	197	30	
	9	209	46	
	12	191	27	
	16	177	34	
	19	159	17	
	23	183	27	
	26	186	38	M

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	30	198	12	
Oct.	3	183	17	
	7	179	19	
	10	171	17	
	14	160	11	
	17	168	15	
	21	177	16	M

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	24	199	18	
	28	182	39	
	31	206	43	
Nov.	4	181	17	
	7	189	32	
	11	171	21	
	14	165	35	M
	18	185	41	
	20	179	24	
	25	166	25	
	28	149	15	
Dec.	2	168	24	
	5	153	14	
	9	163	13	M
	12	154	23	

	16	189	52
	19	173	19
	20	160	24
	23	173	37

Subject All.

July	22	536	133
	26	408	119
	29	457	160
Aug.	2	380	84
	5	309	74
	9	450	181
	12	420	122
	16	402	219
	19	374	119
	23	320	137
	26	268	77
	30	244	62
Sept.	2	264	91

	24	359	127
	27	262	133
	30	320	114
Oct.	4	258	114
	7	239	93
	11	227	104
	14	214	57
	18	331	90
	21	295	122
	25	415	31
	28	346	82
Nov.	1	347	65
	4	252	108
	8	327	113
	11	236	102
	15	260	74
	18	242	105
	22	244	108
	25	309	127
	29	426	140
Dec.	2	534	102
	6	467	161
	9	377	133
	13	376	94
	16	602	115
	20	362	70
	23	475	140

Subject Wil.

July	30	210	67
Aug.	3	227	87
	6	209	62
	10	258	47
	13	182	60
	17	171	60
	20	230	102
	24	254	60
	27	196	53
	31	266	99
Sept.	3	230	71
	7	214	57
	10	264	95
	17	182	42
	21	210	71
	24	233	53
	28	229	68
Oct.	1	247	79
	4	285	112
	8	187	42
	11	224	68
	15	191	27
	18	178	27
	22	163	81
	25	246	54
	29	167	27
Nov.	1	207	78
	5	220	64
	8	254	64
	11	195	41
	12	182	43
	19	221	82
	22	261	101
	29	234	58
Dec.	3	195	23
	10	270	99
	13	250	59
	17	293	68
	20	238	56
	23	209	60

Subject Per.

July	11	212	32
	14	271	59
	18	243	64
	21	291	91
	25	243	67
	28	226	79
Aug.	1	260	44
	4	214	67

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	8	291	51
	11	238	47
	15	169	30
	18	195	55
	22	145	44
	25	229	58
Sept.	1	280	76

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	15	284	79
	19	269	58
	22	334	64

Subject Dor.

July	12	344	98
	15	492	91
	19	472	238
	22	952	403
	26	474	92
	29	385	41
Aug.	2	528	98
	5	337	80

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	9	326	42
	12	313	33
	16	317	31
	19	332	36

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	23	345	66
	26	241	21
	30	248	18
Sept.	2	285	57
	6	278	19
	9	331	112
	13	357	34
	16	365	54
	20	335	14
	27	359	67
	30	307	35
Oct.	4	372	54
	7	283	26
	11	286	33
	14	325	107
	18	313	31
	21	377	65

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	25	278	20
	28	300	29
Nov.	1	281	30
	4	250	27
	8	279	28
	11	275	38
	15	255	14
	18	251	14
	22	257	13
	25	275	27
	29	252	25
Dec.	2	281	46
	6	254	23
	9	263	22
	13	253	20
	16	282	42
	20	252	21

Subject Whit.

July	25	148	31
	28	157	15
Aug.	1	149	22
	4	164	21
	8	139	18
	11	144	16
	15	103	24
	22	144	14
	25	163	29
	29	138	25
Sept.	1	158	18
	8	144	17
	12	164	19
	15	168	33
	19	148	19
	22	168	24
	26	132	17
	29	126	12
Oct.	3	145	21
	6	146	13
	10	151	21
	13	134	11
	17	142	9
	20	156	21
	24	151	11
	27	161	9
	31	164	32
Nov.	3	152	15
	7	160	26
	10	147	16
	14	171	13

17	147	16	Dec.	5	125	12	15	141	11
21	142	18		8	145	17	19	147	13
28	152	11		12	159	19	21	149	19

A logical way of treating the results obtained would be to start with the normal subjects and then continue with the extreme chronic, that is with the Groups I, II and III.

GROUP I

Subject Lun.

Time of Experimentation: August 2, 1921 — December 15, 1921.

The calculated significant values for the whole period of experimentation of this subject are as follows:

MM — 125	MSD — 9
SDM — 6.5	SDSD — 2.7

Subject Whi.

Time of experimentation: August 9, 1921 — December 13, 1921.

The corresponding significant values of this subject are:

MM — 132	MSD — 11
SDM — 8.6	SDSD — 4.8

Discussion: We see from the tables and from the calculated significant values that if the results are expressed in curves these curves run a vertical path without marked swings or jaggs, which means that the performance of the two subjects is very steady both on each day of experimentation and from day to day all through the period. The experimenter feels that a further study involving more normal subjects is not necessary, — it being safe to assume that this is the standard performance of normals.

GROUP II

Subject Mad.

Time of experimentation: July 23, 1921 — March 4, 1922

Clinical Record: The patient was manic all through the experiment. During the last days of September she was reported as somewhat quieter than previously and she remained in this quieter state until the end of October. Then a violent manic-excitement set in, making it impossible to bring the patient to the laboratory. Not until January 14, 1922, could the experiments be continued, at which time, however, patient was in such an excited and unstable state that reaction times could only be obtained at scattered dates.

Laboratory Record: The significant values were calculated separately for the three different time periods, — that is, for the extreme manic period, between July 23rd and September 30th, 1921, for the somewhat less manic period between the latter date and October 29th

1921, and for the very manic period between January 14th and March 4, 1922. These significant values are as follows:

July 23rd — September 30th
MM — 748 MSD — 146
SDM — 93 SDSD — 45

October 1st — October 29th
MM — 646 MSD — 77
SDM — 58 SDSD — 29

January 14th — March 4th
MM — 735 MSD — 139
SDM — 122 SDSD — 54

Discussion: The table and the significant values show that the outstanding characteristic in the performance of the manic is a very marked instability both for the results for each separate day of experimentation (the standard deviation is always large) and for the results for the different days (the standard deviations of the averages and of the standard deviations are also very large). The manic curve is consequently very jagged as compared with the normal.

The table and the significant values show, furthermore, that the reaction time in the manic is prolonged in comparison with the normal.

There seems to be a direct relation in one and the same individual between the degree of manic excitement on the one hand, and the steadiness of the performance as a whole on the other. This same direct relation seems to exist between the degree of excitement and the length of the reaction time. This is clearly brought out in the numeric relation between the significant values of the three different periods. For the middle period — when the patient was reported to be quieter than either before or after — these values show a very marked decrease as compared with the preceding and following periods. These characteristics of the manic performance which have just been described were repeated to a more or less marked degree, as we shall see, in all the other patients going through an excited phase of the manic depressive psychosis.

GROUP III

Subject Pai.
Time of Experimentation: — February 4, 1922 — April 5, 1922.
Subject Hul.
Time of Experimentation: — February 1, 1922 — April 5, 1922.
Subject Fra.
Time of Experimentation: — January 28, 1922 — April 5, 1922.

Clinical Record: All these three patients were suffering from a mild, even depression, through the entire experiment.

Laboratory Record: The laboratory results for all three can best be treated together. A study of the three tables shows that the performance of the patients is pretty steady except for certain days when the standard deviations are considerably longer than usual. These days are as follows:

Subject Pai.: February 4th, February 8th, February 11th, February 25th, April 1st.

Subject Hul.: February 18th, February 25th, March 15th, March 18th.

Subject Fra.: February 1st, February 15th, February 18th, February 22nd.

In the table these dates are marked with an "L." A study of the individual reaction times on these days shows that in all instances the largest standard deviations are due to the fact that one or, in a few cases, two of the ten reaction times are very much longer than the rest, — the eight or nine remaining being very constant for each time and for each subject. (It may be noted that these longer times have never been the first or the second of a series as in that case they would have been excluded in accordance with a principle adhered to throughout the experiment.) This is well expressed in the difference between the standard deviations when the longer reaction times are included in the calculation as they are in the tables, and those calculated when the longer reaction times are excluded. The following tables give in parallel the standard deviations calculated under these two different conditions: viz., I, without exclusion, and II, with exclusion of the longer times.

Pai.	I.	II.
	45	5
	37	5
	82	5
	36	9
	41	10

Hul.	I.	II.
	28	8
	24	14
	27	8
	27	7

Fra.	I.	II.
	85	10
	22	13
	44	7
	20	15

The significant values for the whole period, both with and without exclusions are given below; I, without and II, with exclusions.

Pai.		I.	II.	Hul.		I.	II.
	MM	134	129		MM	156	154
	SDM	11	4.6		SDM	9	8.3
	MSD	19	7		MSD	13	9
	SDSD	20	2		SDSD	7	2.6

Fra.		I.	II.
	MM	174	171
	SDM	14	9.5
	MSD	19	12
	SDSD	17	3.4

Discussion: From these calculations it is obvious that the mildly depressed subject gives a pretty steady performance. Where the significant values for the whole period indicate some degree of unsteadiness we find this to be due to a few considerably prolonged reaction times. The patient of this type has, consequently, either a normal frequency curve for each sitting — that is, a narrow and high one — or he gives for the majority of the readings a narrow and high frequency curve while one, or perhaps two times in a series of ten are far away from the rest on the abscissa. This latter condition may occur in the normal also, although this is much more rare. This type of frequency curve differs entirely from that given by the manic patients. The results from the latter give, for all the different degrees of excitement which have been tested, broad and low frequency curves. That different mental processes are behind these two phenomena is beyond doubt and will be discussed later.

These observations seemed to the experimenter suggestive enough to be made the object of a special experimental study.

Independent of the ordinary experiments, series of twenty reaction times were taken on two manic and three depressed subjects — and the resultant frequency curves were studied. There were altogether 30 curves, 9 from the manics and 21 from the depressed. Of the 21 series from the depressed subjects 9 showed the phenomena stated above — that is, a few times, from 1 to 3, of the 20 were very much longer than the rest and consequently brought about a considerable increase both in the average and in the standard deviation. In only one of the curves for the manics did this occur — the rest of the manics showing their typical broad and low curve.

An incidental fact of some interest in this connection, occurred on one day of experimentation with a normal subject who reported that on that day he felt depressed. The frequency curve of his reaction times for that day presented the typical characteristic of the frequency curve for depressed patients as described above, — that is, a narrow and high curve with one reaction time far away from the others on the abscissa. At another sitting this same subject gave a manic curve. On this day he reported "worry," a fact that will be returned to in connection with the discussion of some other phenomena later.

Nothing can be said definitely as to the significance of the length of the reaction time in the depressed patients. Two of the subjects, Hul. and Fra., had a somewhat longer reaction time than did the normals while one of them, Pai., had an average reaction time of practically normal length.

As a whole it may be said that further experiments on a larger number of depressed subjects are desirable, especially if this involves a study of depressions of different degrees. As it happened during the period of this investigation there were no other simple depressions in the hospital.

After having settled what is characteristic for the normal, manic and depressed performance, it is interesting to see whether these typical characteristics return when one and the same patient goes through the different phases studied — that is, through a normal period, a manic excitement and a depression. Several of the subjects passed through such different phases. The description of their performances during the different periods follows:

Subject Mil.
Time of experimentation: July 20th, 1921 — Dec. 21st, 1921.

Clinical Record: When the experiment started the patient was in a wild manic excitement. From July 27th to September 24th this condition was too extreme to allow of the patient being brought safely to the laboratory. When the experiment started again on the latter date the patient was still very excited. During the months of October, November and December he became gradually more and more quiet until just before Christmas he was discharged from the hospital as able to live at home though still a little hypo-manic.

Subject Hin.
Time of experimentation: August 12th, 1921 — Nov. 1st, 1921.

Clinical Record: When the experiment started the patient was in a manic excitement, from which he gradually came out during the months of August, September and October. The patient is constitutionally hypo-manic and was discharged from the hospital in the beginning of November as being able to be cared for at home, though still showing his usual hypo-manic traits.

Laboratory Record: The study of the tables shows an increase in the steadiness of the performance of these two subjects as they get out of the excitements, as well as a gradual decrease in the average reaction times. These traits stand out even more obviously when the significant values for the different months of each subject's development are calculated. The significant values are as follows:

Subject Mil.
Month of October
MM — 317
SDM — 118
MSD — 102
SDSD — 73
Month of November
MM — 177
SDM — 26
MSD — 28
SDSD — 22
Month of December
MM — 170
SDM — 3
MSD — 23
SDSD — 11

Subject Hin.
Month of August
MM — 180
SDM — 33
MSD — 42
SDSD — 15
Month of September
MM — 147
SDM — 14
MSD — 18
SDSD — 4.6
Month of October
MM — 150
SDM — 9.5
MSD — 15
SDSD — 3.6

There is a very small deviation from the gradual decrease of the significant values for the month of October in the subject Hin. Undoubtedly this may be considered as accidental.

Discussion: The general run of the laboratory curves of the subjects reported above shows beautifully, especially in the case of patient Mil., the development from an extreme manic state (shown as a more chronic condition in the previously discussed patient Mad.) towards a state that approaches normal. The time curve, considered in its full development, starts with a jagged shape as in the case of Mad., this jaggedness decreasing more and more until the curve runs relatively as an even, horizontal one, thus expressing the gradual increase in the steadiness of the performance.

GROUP IV

Subject Sew.
Time of Experimentation: July 10th, 1921 — Jan. 21st, 1922.

Clinical Record: During the time of experimentation the patient went through three decidedly different periods. During the first of these, lasting until October 26, the patient was at his own normal level, having recovered from a previous manic excitement. This state is described as somewhat hypo-manic and over-active, although not sufficiently so to impair the impression that the patient makes of being a perfect gentleman. The change is first noted on October 26th, a change gradually developing into a manic excitement which reaches its culminating point about November 15th and lasts until about the end of December. During the last week of December the patient became gradually quieter developing a chronic condition in which he was dazed and silly. In comparison with the period just preceding the excitement this appears as a period of some deterioration.

Laboratory Record: The first point of interest in this case is that while the approach of the manic excitement showed its very earliest signs on the ward October 26th, the average and standard deviation of the reaction times, especially the latter, present a considerable increase two days previously — that is, on October 24th. The change in the patient was consequently anticipated in the laboratory at a stage when no conduct reactions had given any indication. The value of this from a practical point of view would not be emphasized if it had occurred only in this isolated case. This phenomenon we will find repeated in other instances in another patient.

The calculated significant values for the three above described periods verify anew the assumptions made on the basis of the experiments with Groups I and II. These values are:

July 18th — October 25th
MM — 150
SDM — 11
MSD — 14
SDSD — 4.2

Oct. 26th — December 19th
MM — 182
SDM — 28
MSD — 39
SDSD — 29

January 3rd — January 21st
MM — 151
MSD — 21
SDM — 8
SDSD — 11

Discussion: It is evident that during the first of these periods when the patient is described as being at his normal level, the steadiness of the laboratory performance approaches that of a normal, although the reaction time may be somewhat prolonged. During the second period, that which covers the manic excitement, the instability of the performance is considerable, though not to the same extreme extent as in the chronic manic case of patient Mad. During the third period, that characterized as a recovery in relation to the excitement, the significant values have again gone down without, however, in all cases coming near the normal level of the first period. It is difficult from a clinical point of view to describe this last period in terms of degrees of mania. Consequently an evaluation of the correlation in the same sense as it has been made in other instances of changes, cannot be made.

Subject Dav.
Time of Experimentation: July 13th, 1921 — December 10th, 1921.

For certain periods the patient was unco-operative so that while the clinical observations are continuous there were some periods when she could not come to the laboratory. The patient co-operated in the laboratory during the following periods:

July 13th — August 3rd
September 15th— October 19th
December 1st — December 10th

Clinical Record: The patient is in general characterized as swinging between a hypo-manic state, which sometimes approaches the normal and a wild manic excitement. At the start of the experiment the clinical observations represented the patient as somewhat excited. She gradually quieted down from this date until August 2nd. On August 3rd a sudden and violent excitement set in. This lasted until September 5th. On this date the clinical observations represent a gradual quieting of the patient which latter went on without interruption until October 18th. On this date the patient was reported to be practically normal in her conduct on the ward. On October 19th she went into another excitement just as sudden and just as violent as the previous. The fading away of this third excitement, from clinical observations, started on November 25th and gradually continued until December 6th. Between December 6th and December 14th the patient showed a mild excitement with practically no change. On December 15th, however, there was a new excitement. Again very sudden and very violent. It is important in the study of the correlation between the clinical and the laboratory results of this patient, to keep clearly in mind the exact period of the fading away of each excitement as this presented itself on the ward. These periods, given anew, are as follows:

First excitement:
  January 13th — August 2nd
Second excitement:
  September 5th — October 18th
Third excitement:
  November 25th — December 16th

Laboratory Record: The Laboratory Results covering the first of these periods show a gradual decrease in the average and standard deviations parallel with the fading of the first excitement, as far as July 23rd. After that, that is on July 27th and August 3rd, the averages and standard deviations increased gradually, although the clinical records represent improvement on the ward up to the latter of these two dates. If change in reaction times towards increased unsteadiness does indicate, as we have a right to assume from previously reported results, an increase of a manic disturbance, it is obvious that the reaction times indicated earlier than did the conduct on the ward that a change was taking place in the patient. This change the patient, through self-control, could conceal on the ward up until a certain point at which time the disturbed state of mind found an outlet in the violent excitement which occurred on August 3rd.

The laboratory test covering the second period started on September 15th. This was the first day that the patient could leave the ward, although there had been noticed a definite decrease in the excitement as early as September 5th. The reaction times during the first part of this period of experimentation present a considerable unsteadiness and give a very jagged time curve, such a one as is typical for the manic. As the patient becomes quieter the reaction times become steadier and shorter until October 18th. On that day there was marked increase, both of averages and standard deviations indicating, one day previous to any indication on the ward, that a change toward a different condition was taking place. On the following day the explosion occurred, the patient becoming violently excited.

For the third period, the first laboratory results date from December 1st. These results show on only one day, December 3rd, a comparatively short reaction time and small standard deviations. For the other days, especially those after December 3rd, the results show considerable instability. Consequently it can be said that for this third period the laboratory results anticipated the new excitement, a fact definitely suggesting that the patient's apparently quieter conduct on the ward was not correlative with an equally quiet state of mind.

Discussion: An outstanding feature for this patient is that in each of the three instances where the manic excitement was coming on, this excitement could be predicted on the basis of the laboratory test. This was also true in the patient Sew. as previously reported. The practical value of this lies in the fact that it enables us to take certain steps to meet an excitement before it really sets in. In the third patient belonging to Group IV (Cou.) such a prediction was not possible.

Subject Cou.
Time of experimentation: July 22nd, 1921 — December 23rd, 1921.

Clinical Record: In general the patient was characterized as mildly manic with periods of more extreme excitement. The patient is reported as somewhat quieter than usual just previous to and during her menstrual periods. During the course of these experiments the patient passed through two more marked excitements. The first of these started about September 1st. It reached its culminating point about September 9th and then gradually faded away until on September 29th the patient was reported to be again in the same condition as that previous to the onset of this excitement. She remained in this general condition of mild excitement for 22 days. On October 23rd another excitement set in, this time culminating about November 1st and then fading away without, however, bringing the patient back to that same degree of self-control as characterized her in the period previous to this excitement.

Laboratory Record: On the day after the first excitement was noted clinically, that is on September 2nd, the reaction times are still just as stable as during the time previous to this occurrence. On the day of experimentation after that the average and standard deviation are considerably increased. For some reason or other, the nature of which the experiments throw no light upon, the change toward excitement in this patient is noted earlier on the ward than in the laboratory. The changes in connection with the second excitement are noted at practically the same time on the ward and in the laboratory.

The general tendencies of the changes in reaction times and standard deviations during the four clinically determined periods, are beautifully shown by the calculated significant values of the periods. They are as follows:

July 21st — August 31st
MM — 164
SDM — 8
MSD — 20
SDSD — 7

Sept. 1st — Sept. 28th
MM — 184
SDM — 14.5
MSD — 29
SDSD — 10.6

Sept. 29th — Oct. 22nd
MM — 177
SDM — 11
MSD — 15
SDSD — 2.6

October 23rd — December 23rd
MM — 174
SDM — 15
MSD — 27
SDSD — 11

Discussion: In the values given above we see again how the unsteadiness of the laboratory performance increases with excitement. The second and fourth periods when excitement was present show larger significant values than the two other more quiet periods.

An interesting feature in this case is the study of the reaction times during the menstrual period. As above stated, the patient was reported to be quieter than usual at these times; she menstruated regularly for four days every third week so that during the time of experimentation she had altogether six periods. At each of these times the reaction times were taken once. These days are in the table marked with an "M." For three instances — September 2nd, October 21st and December 9th — the standard deviations were rather small, 10, 16 and 13 sigma respectively. On one occasion, August 8th, the standard deviation was smaller than for the times previous and after, 22 sigma as against 30 and 35. For two times they were rather long, September 26th and November 14th, 38 and 35 sigma. In the last two instances the periods fall in the middle of an excited period which may account for their length. In three or possibly four of the six instances the laboratory findings consequently seemed to point in the same direction as do the clinical notions concerning the menstrual period.

GROUP V

Subject All.

Time of experimentation: July 22nd, 1921 — Dec. 23, 1921.

Clinical Record: The patient is described as a mild circular case of manic-depressive insanity. During the period of experimentation the patient was mildly manic with exception of a short period between September 7th and September 21st, during which she was in a mild depression. Unfortunately during this latter time the patient refused to go to the laboratory so that no reaction times could be obtained for the depression.

Laboratory Result: The material obtained shows the typical manic characteristics — unsteadiness both for single days and from day to day — as can be seen in the table and in the calculated significant values for the period of experimentation. These values are as follows:

MM — 348	MSD — 110
SDM — 94	SDSD — 35

Discussion: Some differences can be noted in the laboratory results immediately preceding and immediately following the depressed period. The three days of experimentation before the patient became unco-operative show relatively short reaction times and small standard deviations while the steadiness of the results from day to day for the two weeks after the depression is greater than at any other time. The experimenter feels, however, that these facts cannot be considered as having any definite significance until after similar evidence has been obtained from other subjects of the same type.

A comparison of the significant values given above with the corresponding values in the previously reported patient, Mad. (her first period) characterizes the present patient as a case of less extreme excitement. This well fits the clinical notions of the cases. While patient Mad. is always on a disturbed ward, patient All. lives all of the time on a somewhat quieter one.

Patients remaining to be discussed fall, as far as diagnosis is concerned, and in some other respects, outside of the homogenous group of the rest of the psychotic subjects.

GROUP VI

Subject Wil.

Time of experimentation: July 30th, 1921 — December 23rd, 1921.

Clinical Record: Patient Wil. is characterized as a typical agitated depression in which the agitation is chronic and very marked.

Laboratory Record: The reaction times and standard deviations are very unstable, as is shown by the tables, both for each individual day of experimentation and in the long run from day to day. This last fact is expressed in the calculated significant values for the whole time period, as given below:

MM — 222	MSD — 64
SDM — 34	SDSD — 22

Somewhat similar features are present in the next patient belonging to this group.

Subject Per.

Time of experimentation: July 11th, 1921 — Sept. 22nd, 1921.

Clinical Record: The patient was in an agitated depression from the beginning of the experiments until August 7th. From this date on he is described as not depressed but somewhat hyper-active and restless. After September 6th his mood became somewhat elated and remained thus until after he left the hospital. A common characteristic of all these three periods is agitation and restlessness — supported at the different instances by different moods, first by depression and later by the manic mood.

Laboratory Record and Discussion: The laboratory results for all three periods show considerable unsteadiness and the assumption logically suggests itself that this unsteadiness is to be ascribed to the element of agitation which was common to the entire development. It has already been noted in the previously reported case (Wil.) that the agitated condition brings about an unsteady performance. It is interesting to recall here the incident, previously related, of one of the normal subjects in a state of worry giving a manic type of reaction. During that incident in the normal subject and for the entire periods for these two psychotic subjects the frequency curves of the reaction times were broad and low. The significant values of the three periods for Subject Per. read as follows:

July 11th — August 7th
MM — 245
SDM — 26
MSD — 63
SDSD — 17

August 8th — September 6th
MM — 221
SDM — 43
MSD — 52
SDSD — 13

September 6th — September 22nd
MM — 296
SDM — 28
MSD — 67
SDSD — 9

GROUP VII

Subject Dor.

Time of experimentation: July 12th, 1921 — December 20th, 1921.

Clinical Record: Patient seems probably a case of mild hebephrenic dementia præcox. She was considered as going through the following periods during the time of experimentation. At the start of the laboratory work she was in an extremely fearful mood, confused and preoccupied by delusions. From July 12th to August 22nd she gradually worked out of this fearful attitude. After this latter date, there is a long period lasting practically throughout her stay at the hospital, when her conduct on the ward is described as about normal except for a somewhat childish reaction toward her entire environment. There was a feeling, however, on the part of the physicians, that during this last period there was a concealed fight in the patient against her delusions, which fight was thought to have resulted in her ridding herself of them at the end of this period. For one single instance, on September 24th, the patient had a faint outbreak of irritability and refused to go to the laboratory. For the rest of the time she was co-operative. From the middle of November on the patient was considered to be practically free from her delusions.

Laboratory Record: On looking over the laboratory results it immediately appears that a correspondence between the clinical observations and those of the laboratory does not exist in the sense that we have found it in the manic depressive cases. On the contrary the data for Subject Dor. suggests very definite periods of its own. Thus there is a very definite period from the beginning of the experiment to August 5th in which the reaction times show a considerable unsteadiness, both for the individual days of testing and from day to day. There follows a period of two weeks, ending August 19th, where the laboratory results are more constant — this being true especially from day to day but also applying to the results from each individual instance. These two periods cover the time when the patient was reported as clearing up from the fearful mood. From August 23rd to October 21st there is a period in which the readings from day to day are very variable, although not so variable as during the first of the periods mentioned. From October 22nd until the end of the experiment the laboratory results are in every way markedly more constant than at any time before although not so constant as in the normal subject. The significant values have in this case been calculated for the laboratory periods without consideration for the clinical observation. They read as follows:

July 12th — August 5th
MM — 498
SDM — 184
MSD — 143
SDSD — 112

August 20th — October 21st
MM — 318
SDM — 41
MSD — 48
SDSD — 28

August 6th — August 19th
MM — 322
SDM — 7.5
MSD — 36
SDSD — 4

October 22nd — December 20th
MM — 267
SDM — 15
MSD — 26
SDSD — 9

Discussion: Particularly interesting in Patient Dor. is the fact that the third of the laboratory periods, in accordance with our previous results, seems to indicate a quite considerable disturbance of a kind that suggests agitation, whereas the clinical observations for this period report practically normal conduct. The assumption is suggested that the laboratory curve is an expression of the fight in the patient against the delusions — a fight which takes place in an introverted præcox personality type who conceals the rougher outward expression of mental conflict. That an emotional instability really existed during this period is also to some extent indicated by the fact that in one instance (September 24th) an explosion occurred with irritability and crying spells as has been mentioned above. It is also suggestive that the only type of mental disorder in which this incongruity between clinical and laboratory observations occurred, is dementia præcox, a type of mental disorder to which we are apt to ascribe introversion as a symptom. In one more case, Whit., who is also probably a dementia præcox, this same incongruity to a somewhat less marked degree appeared, as will be seen.

On the basis of the laboratory findings the experimenter feels quite convinced that the concealed struggle of the patient Dor. against her delusions continues until the end of the third laboratory period, that is to October 21st, and not quite so long as seems to be the opinion of the physicians on the ward who placed this date at the middle of November. At any rate it seems very probable that this fight loses its affective character about the previous date.

A fact to be noted in patient Dor. is that during the comparatively steady period from October 22nd to the end of the experiment, the average of the averages of the reaction times is rather long — 267 sigma. Whether this means a retardation of the reaction times of the motor type or a constant reaction of the sensory type in spite of instructions, cannot be settled by the experimenter. Any possible significance in this phenomenon can only be brought out through further experiments on dementia præcox cases. An equally long reaction time coupled with an equally small standard deviation was not obtained in any of the other subjects.

Subject Whit.

Time of experimentation: July 25, 1921 — December 21, 1921.

Clinical Record: The patient is probably a hebephrenic dementia præcox. He showed all through the time of the experiment an even conduct on the ward — a conduct which may be said to be the expression of a submissive, but at the same time a reserved personality.

Laboratory Record: — The calculated significant values are as follows:

MM — 149	MSD — 18
SDM — 13	SDSD — 6

Discussion: There is a general unsteadiness in the performance as expressed in these values, an unsteadiness that is not very marked, but yet enough so to distinguish the patient decidedly from the normal. On certain instances the standard deviation of a day surpasses 30 sigma, which is a good deal above the patient's average. No sign of increased disturbance on these occasions was noted in the clinical record. Thus it can be said that the incongruity found in previously reported patient Dor., between laboratory and clinical observations exists also in Whit., the second of the two præcox cases.

SUMMARY OF EXPERIMENTAL RESULTS

Simple reaction times to sound stimuli were taken on twelve subjects suffering from manic depressive insanity, on two suffering from dementia præcox and on two normal, the readings being made as far as the principal could be adhered to, two times a week for periods of about two to about seven months. Ten reaction times were taken every day or experimentation and averages and standard deviations were calculated. At the same time the physicians' observations of the patients were carefully recorded.

The experiments show that an increase occurred in the averages and standard deviations of the readings of the single days of experimentation and also an increase of the significant values, — that is, of the averages of averages and standard deviations, — when a patient went into a manic excitement.

There was in each patient a direct relation between the significant values and the degree of excitement of the period.

The changes in the reaction times and in the standard deviations in patients going from a relatively normal condition into a manic excitement appeared, in four instances of six, previous to any noticeable changes in conduct on the ward, and, consequently, the onset of the excitement could be predicted on the basis of the laboratory record.

The depressed patients were found to give a very typical performance, the main characteristic of which was a considerable steadiness. At certain instances, however, there was an increase of averages and standard deviations and this was always due to the fact that one or sometimes two reaction times of ten were very much longer than the rest. These patients consequently gave either a narrow and high frequency curve, approaching the one of the normal, or they gave for the majority of the readings a narrow and high frequency curve, while one, or perhaps two times of a series of ten were far away from the rest on the abscissa. Contrary to this the frequency curve of a manic was always broad and low.

Readings from patients in agitated states always gave broad and low frequency curves, independent of the underlying mood.

In a few cases of hebephrenic dementia præcox the characteristic finding was an absence of congruity between the clinical and the laboratory observations. The latter indicated disturbance of the agitated type, while the conduct on the ward was reported to be fairly normal. It is suggestive that such an incongruity was only found in the introverted præcox personality type.

THEORETICAL CONSIDERATIONS

The sum total of the laboratory results seems to indicate that the most significant laboratory symptom for disorder or disturbance is the steadiness of the performance — that is, the standard deviations both for the individual instances of experimentation and from day to day. Now the general notions as to large standard deviations in reaction times is that they are due to an unsatisfactory attentiveness, or to attentional disturbance. Consequently, we may be able to say that the instability of performances in the psychotic subjects employed is to be considered primarily as a manifestation of an attentional disturbance. Obviously, this attentional disturbance has something deeper behind it and an attempt to analyze this deeper cause is logically the next step in the discussion of the results obtained. The experiments reported have been carried out on a group of psychotic subjects of which all but two belong to the manic-depressive type of insanity. As the outstanding mental disturbances in this type are generally considered to be emotional maladjustments we may, on the whole, be entitled to say that the attentional disturbance has its roots in emotional abnormalities. For other types of patients the deeper cause of the attentional disturbances may be different.

The study of the results from manic and depressed cases, especially the study of the frequency curves, seems to indicate that there are different types of attentional disturbances in different phases of manic depressive insanity. Of course a performance which gives a broad and low but even frequency curve, (as we get in the typical manic), is in its nature different from one in which nine reaction times of the ten give a narrow and high curve while the tenth time is very much longer than the rest, (as we get in those cases of depression where the standard deviation is large). To throw light to some extent on the different types of attentional disturbances which may occur, the experimenter will attempt to correlate the laboratory results with certain clinical findings concerning the phenomena in question, which latter findings he has obtained chiefly during mental testing of patients.

It seems to the experimenter that there are three types of attentional disturbance, which can be clinically distinguished and which differ in their psychological character. Without involving ourselves in any theoretical speculations concerning the psycho-physiological nature of attention, we will try to describe these types as they can be studied on the wards. As a practical matter we consider an attentional disturbance to be present when there is inability of maintenance, for a definite simple content, in clearness for any length of time.

In order to describe these types of attentional disturbance we will take up the old concept of the "stream of consciousness." As attention is a clearness into and out of which contents pass and as only one content at a time can be in clearness — that is, can be attended to — we may call attention a temporary blocking of the "stream of consciousness" through the presence of the clear content, if, however, we allow this statement to leave room for possible under-currents of contents which are perceived but not apperceived in the Wundtian sense of these terms. Attentional disturbance, according to this, may consequently be defined as the inability of the presence of contents to block the "stream of consciousness" or as inability of contents to be maintained in clearness. This inability of contents to be maintained in clearness appears in mental cases to be due to different processes and it is on the basis of these different processes that the experimenter distinguishes his types of attentional disturbances. Three such types can be differentiated — two of which may be called active, one passive.

The active types of which one may be called the variable sub-type and the other the recurrent sub-type, can be defined as follows:

I. Active variable type of attentional disturbance:

Attention is not maintained because new contents so to speak push in and try to force out of clearness the content which blocks the "stream of consciousness." It is an exaggerated pressure of the "stream of consciousness" on the blocking dam. This is the type found in the manic patient and the type which has its verbal expression in so-called "flight."

II. Active recurrent type of attentional disturbance:

Attention is not maintained because one content has a tendency always to force itself into clearness and thus put out all of the others. This is a type which occurs in many different psychoses, but is especially common in depressions of the involution period and has its verbal expression in perserveration. There need be no discussion here as to the extent to which perserveration can become a purely automatic act without cortical involvement.

III. The third type of attentional disturbance, the passive one, may be defined as follows:

The blocking of the "stream of consciousness" through a content seems to fall down by itself without any other content passing into clearness. This is what we term "absent mindedness." It occurs to some extent in normal subjects and is rather common in dementia præcox. The mind seems to be blank for some time. It is possible that this type of attentional disturbance has its verbal expression in what we speak of as "scattering."

These verbal expressions of the different types of attentional disturbance, as above described, constitute the most satisfactory basis for a clinical study of the respective types. As far as flight and perserveration go there is no doubt that they are significant for Types I and II. Flight is a very obvious expression of a hyper-activity of the "stream of consciousness" and illustrates in a pictorial way how the various contents force each other in and out of attentive clearness, how one idea — associated ever so vaguely through meaning or sound with the previous one — is immediately ready to dominate consciousness at the cost of its predecessor.

Just as obvious is the mechanism of perserveration. The verbal repetition of the expression of one single content indicates the narrow mind and works against any implication of other ideas in the patient on the part of an observer. All different degrees of this type of disturbance can be seen. In some cases it is possible to break in for a short period and occupy the patient with something outside of his predominant ideas, whereas in other extreme instances any such breaking-in is impossible.

There is perhaps more doubt in the question as to whether scattering is an expression of attentional disturbance of Type III. The term scattering is itself very arbitrarily defined when used in psychiatry. Any verbal stream is characterized as scattered if the observer cannot discover an associative connection of some kind between the links, either through sound or meaning. Thus, for the observer, it appears as if each content breaks down and leaves the mind blank for some time before another content enters. Whether the mind of the patient is in reality blank between the two apparently independent contents or whether there is an existent subjective association, can, of course, not be definitely stated.

Of a certain interest may be the fact that, clinically, there seems to be a high correlation between the attentional disturbance of Type III and lack of affect. This disturbance occurs frequently in cases of dementia præcox where we also find scattering as a common symptom.

So much for the distinction of attentional disturbances on the basis of clinical observations. Now as to our laboratory results.

It is obvious that the broad low frequency curve, obtained chiefly from the manic indicates an attentional disturbance of another kind than the one which gives the typical disturbed depressed curve. Theoretically we may say that the former is an expression of a continuous inability of attention to be maintained to the instructions of the experiment, while the latter is due to an inability of attention which occurs only every now and then.

As curves of the first type have been obtained constantly from manic patients we may say that this curve is an expression of an attentional disturbance of Type I. Now the question arises as to whether an attentional disturbance of this type is the only one which gives the broad and low frequency curve. This must be answered in the negative because as a matter of fact the same type of curve was given by two patients not in manic states. The first of these is patient Wil. She carried the diagnosis of involution melancholia and perserveration was the outstanding feature. The same mental content was continually recurring to this patient and was expressed in a stereotyped verbal exclamation. Clinically her attentional disturbance was decidedly of Type II. Consequently we must say that the broad and low frequency curve can be obtained from attentional disturbances both of Type I and Type II. Patient Per. gave the same frequency curve both in his states of manic and depressed agitation. Clinically his attentional disturbance was of Type I although the hyper-activity in the production of ideas or forcing mental contents, in his case was for one period not on the basis of an elated, but rather of a worrying mood.

An assumption, suggested by the results from the manic patients and from the two patients Wil. and Per. is that the frequency curve of the broad and low type is obtained where there is a heightened psychomotor activity. This activity is the common characteristic in the two different groups of cases, although in one instance it is an elated activity or irritability, while in the other it is restless, worry or fear that is behind the manifestation.

As to that attentional disturbance which is behind the frequency curve obtained from the three depressed patients the experimenter does not feel that he can say anything definitely. Whether the in-inability, recurring every now and then on the part of contents to remain in clearness is, in this case, due to the pressure of another content or to a weakness of some kind due to which they fall down by themselves leaving the mind blank, is an open question.

The experimenter feels that in the discussion of his results he has based his conclusions rather upon suggestions than upon final definite evidence and he recognizes the necessity and importance of further experimentation along the same lines upon a larger number of patients of various types. Especially will the work on more cases of dementia præcox be of interest in finding out to what extent the laboratory curves might reveal what is concealed to clinical observation.

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I

The editor of the Medical Section of the British Journal of Psychology has written "The Psychology of Medicine" both for non-technical readers and for those who look forward to specializing in this field. He aims to present clearly what he regards as the basic principles of abnormal psychology and of psychotherapeutics.

Doctor Mitchell's point of view appears in his preliminary sketch of the development of therapeutics. He thinks that the line of advance has been through the stages of purely physical explanation, to a willingness "to work on the assumption that the mind is something real which is subject to its own laws and which may be the seat of processes that are of causal significance in relation to the incidence of mental and bodily disorders." He regards Janet's theory as important in this movement; and he provides a clear description of the phenomena observed by the hypnotists. But, Doctor Mitchell thinks, those investigators have failed to explain where small "dissociations" (amnesias) are stored, if they are not a part of a real personality; how it is that sensations from anæsthetic areas are somehow felt; how there can be those continuities of memory which occur in hypnotic states; and how the localizations of hysterical defects take the forms they do. These theoretical difficulties, Doctor Mitchell feels, arise from a too great emphasis upon the purely cognitive aspect of consciousness, to the neglect of the real efficiency of the emotions and the will. For a more "dynamic" explanation of the splitting of consciousness, therefore, the author turns to the contributions of Freud.

There follows, as the major portion of the book, an excellent brief of Freudian doctrine. With scarcely a hint at further analysis or criticism, Doctor Mitchell describes the notions of "the *libido*," "abreaction," "repression," "conflict," "conversion" of "affects," "displacement," "The Unconscious," "pre-conscious," and "conscious." The "wish," it is true, is explained almost in the language of stimulus and response; but "the censor" provides opportunity again for animistic imagery. "The pleasure-principle," "the reality-principle," "the Œdipus complex," "fixation," "regression," "narcissism," and "sublimation" (with educational implications), complete the list. This clears the ground for a Freudian discussion of the principal functional nerve disorders. Even hypochondria, for example, is probably to be explained as the turning of an excess erotogenic power back upon erotogenically hypersensitive internal organs. Then there is an exposition of Freudian "transference," psycho-analysis, and dream interpretation, by which means the neuroses are traced back to ethical repressions of "polymorph pervers" "infantile sexuality." Finally, the author puts in a good word for prevention of neurotic illness, through that parental honesty which keeps the child's confidence without forming too great dependence; through avoidance of undue prudishness; and through objective child training, according to the "reality-principle," which will prepare for later adjustments to the real world.

Doctor Mitchell believes that Freud's theory is much more hopeful, from the therapeutic point of view, than is the theory of Janet. Jung, Adler, and the other post-Freudians, he regards as being not so precise and scientific as Freud. The suggestionists, he shows, fail to reach the roots of the troubles they attack. That he is philosophically unprepared to understand the mechanism of true hypno-analysis, is indicated by his assertion that the efficacy of suggestion depends on "the presence of *libido*-impulses directed towards the person by whom the suggestion is given"; and that hypnosis, of course, is the same situation exaggerated by the help of "the masochistic component of the sexual impulse."

Yet signs of the breakdown of this metaphysics are to be found in the exposition itself. Thus while sexuality "is the specific factor, so far as we can see, in every (neurotic) case, . . . in every case also there are adjuvant factors . . . (chances of fate and fortune which lead to undue stress) which play their part in the final outcome." And with regard to dreams, the author admits that there is "one class of dream, in which no wish seems to be operative. . . . The battle-dreams so common among soldiers during the war are good examples of this kind of dream. . . . Freud has come to believe that this tendency to revert to significant experience is inherent in the mind and is perhaps deeper and more primordial than the pleasure-principle." Again, immediately following a Freudian explanation of the cures effected through psycho-analysis, the author continues: "The unconscious wishes themselves, the whole complex of feelings and desires which underlay the neurosis, are redintegrated in the personal consciousness and subjected to voluntary direction and control. The energies hitherto expended in repression and in the maintenance of the symptoms are now free to be devoted to socially useful ends."

But in spite of these tendencies toward what some would call scientific modes of description, the book remains fundamentally dualistic and Freudian. For this very reason, however, "The Psychology of Medicine" is a handy volume for those who are prepared to find in the picturesque Freudian and post-Freudian systems many important truths and valuable suggestions; truths and suggestions which need to be sifted out and translated into more scientific language.

II

Mr. R. H. Hingley's "Psycho-analysis" is, in its aim, somewhat similar to Dr. Mitchell's book. Much of the same ground, too, is covered; but it is covered in a very different way.

After a sketch of the schools of psychotherapy (in which he takes Sidis' relatively naïve notion of "a secondary consciousness" as typical of American theory), the author sets forth clearly Freud's notions of censorship and repression. These are accompanied, however, by an interesting criticism of Freud's conscious, preconscious, and subconscious; and Mr. Hingley finds it very easy, in many places, to translate "repression" into "dissociation." Along with his exposition of dream interpretation, again, he appears to doubt the universal validity of Freud's key to dream symbolisms. Identification the author takes to be the basis of symbolism. He interprets the pleasure-pain principle as meaning that "each tendency is concerned with its own satisfaction and is indifferent to the gratification of others. . . . But it is necessary for the good of the whole that these tendencies should be co-ordinated and regulated to this end (reality principle)." In his discussion of conflict, he emphasizes conative rather than affective aspects; and in treating of instinctive tendencies, he acknowledges McDougall's influence. Sex, however, receives from Mr. Hingley a very Freudian treatment; lapses he explains in a purely Freudian manner; and sublimation flourishes unexamined throughout the book.

Among the methods of controlling the unconscious the author includes psycho-catharsis and abreaction; but he emphasizes the former as recall and re-synthesis of dissociated experiences. Along with a description of transference and overcoming resistance, through which the patient is led to stand on his own feet, Mr. Hingley advocates auto-analysis for minor disabilities, and auto-suggestion as a supplementary instrument. The relation between auto-analysis and auto-suggestion he sums up in the statement that "self-analysis tends to yield more insight than power; self-suggestion yields more power than insight. Let them marry."

In the last part of the book the author suggests, with all caution, some possible uses of the new knowledge for society. To begin with, education should seek to replace repressive methods by understanding, along with opportunities for "sublimation," to the end of real adaptability. In this connection the important influence of emotional normalcy on the part of parents and teachers must never be overlooked. In society, the complete absence of neuroticism should be our goal. This would mean, e. g., better art, not less art; and of course more wholesome conditions generally. For the attainment of such a goal, every man not really defective must be treated as a "man"; because a condition "that perpetuates the feeling of inferiority and dependence in its objects, is not a virtue but a vice." The problems of criminality, and of defective characters generally, the author treats in the same spirit. He urges, however, that "we are not concerned so much with the advocacy of specific reforms, as to appeal for . . . an attitude which will make judicial and moral judgment dependent upon sound psychological insight." Finally, with regard to religion, the author feels that religion must be of the type which, while providing scope for sublimation, reconciles the real and the ideal, and maintains both individual independence and social interdependence.

On the whole, Mr. Hingley's attitude seems eminently open-minded, critical, and analytic as far as he goes. While much of his allegiance remains with Freud, he acknowledges virtue in Jung, in the "Subconscious School," and in the instinct school of McDougall and Drever. He makes references, too, to Jones, Brill, Pfister, White, Trotter, Baudouin, and even E. B. Holt. The net result, however, seems to be not so much an attained theory (which he expressly does not claim to have reached), as, on the one hand, an acknowledgment of indebtedness to the new schools; and, on the other, a manifestation of felt need for less primitive theory, more adequate language.

III

The language is available. It is found in such works as Dr. Morton Prince's "The Unconscious" (which Doctor Mitchell quotes in several places), E. B. Holt's "The Freudian Wish," and John B. Watson's "Psychology from the Standpoint of a Behaviorist." "Neurograms," "action patterns," "conditioned reflexes" (including autonomic responses[1]), transcend the Cartesian dualism, greatly simplify problems of classification, and point the way to an explanation of all functional nerve phenomena, in terms of various degrees and forms of integration and dissociation, perhaps of the simple habit type.

W. S. TAYLOR.

PSYCHOLOGY. A Study of Mental Life. By Robert S. Woodworth, Ph. D. Henry Holt and Company, New York, 1921. Pp. x, 580.

According to his lights will the teacher of psychology condemn or praise this latest of Prof. Woodworth's contributions to the literature of the science of "Mental Life." He who opens its covers prepared to indulge in the compensatory delights of a criticism leveled at the system of a rival will turn away disappointed, but the many who struggle with elementary classes must find much to praise in this, a book clearly written for beginners.

Two features of the volume immediately recommend themselves. The opening chapter on the scope and methods of the science achieves refreshing distinction through the refusal of the author to bestride that fence of a not-so-high-as-we-thought-it-might-be order between behaviorism and the older introspective psychology. Neither does he drop on one side and complacently refuse to play in his neighbor's backyard. On the contrary, the fence, if not wholly missing as in the palmy days before Dr. Watson and others awoke us to its existence, he finds to be at least of the picket variety. We have, here, a frank facing of the issue and an insistence upon the inclusion of both inspective and introspective methods in psychology garbed in a clarity of expression that must command at once the beginner's thoughtful attention. Doubtless, too, the backward-swing of the pendulum from extreme behaviorism will find many indebted to Prof. Woodworth for a timely expression of their point of view.

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[1] Cf. John B. Watson's article, "Behavior and the Concept of Mental Disease," Journal of Philosophy, Psychology, etc., 1916, *13*, 589–597.

The other obvious merit of the book is its breadth. Designed to "represent the present state of a very active science," the work includes, beside a treatment of the conventional topics from Sensation to Will, separate sections on Intelligence and Personality. More fundamental though less obvious is a certain depth of perspective visible on nearly every page. In the opening chapter already mentioned, a discussion of the fields of psychology and the position of the science among its neighbors suggests Part I of Hunter's "General Psychology." On the whole we meet with a survey that has the advantage in coherence but not in extent over the older text.

The technical makeup of the book is excellent. A brief preface indicates the origin of the work in mimeographed sheets used at Columbia. This precedes a Table of Contents in which a title heads the list of topics discussed in each chapter. Every section is again sub-titled in the text and concludes with an ample set of exercises. The bibliography is scattered through the volume for reference in solving the problems. At the close of the work is an eight page index.

A more detailed analysis of the contents of the volume reveals qualities both pleasing and displeasing. A reflection from behaviorism is the early sequence: Reactions, Reactions of Different Levels, Tendencies to Reaction; three chapters replete with helpful diagrams to assist the beginner who faces trembling that bugbear of the elementary course, a discussion of the nervous system.

Only those who adopt a purposive view of instincts are likely to find satisfaction in the middle portion of the work. The chapter on Emotions, which presents a workable modification of the James-Lange theory by tying it up with reaction-tendencies, is beautifully worked out.

A treatment of the Feelings leaves one vaguely dissatisfied. Follows a lengthy section on Sensation that is largely conventional. An interesting departure from the usual is the inclusion of a note on König's color triangle in the paragraphs on vision. We are told in a chapter on the subject that "attention amounts to the same thing as the instinct of exploration." This statement smacks dangerously of a faculty psychology.

Chapters XII to XVI, Intelligence to Association, Learning and Habit; might form, with minor modifications, a condensed volume in Educational Psychology by Thorndike himself. Only James could have written his classic on "Habit," but Woodworth in a newer age does well to introduce the young student to the methods of Animal Psychology in connection with a study of the learning process.

Many will find the chapter dealing with perception the most successful in the text. Its orderly development provokes admiration.

The remainder of the book is to a large degree a traditional array of topics more or less successfully presented. A chapter on reasoning is at times more logical than psychological. A decent evaluation of Freudianism plus a treatment that makes imagination a mental manipulation as contrasted with reasoning, which is mental exploration, occurs in sections devoted to these topics. Freud is rightly criticized for failing to see the importance of what Woodworth calls the self-assertive tendency.

Qualified investigators in the labyrinth of Personality shake their heads dubiously at Woodworth's final chapter, although to recognize the topic as a psychological matter in a first book augurs well for the future of research on this line.

Viewed in the mass the book is broad and sincere, though many will find occasional chapters unnecessarily complex and circuitous. One serious criticism, however, applies to the whole work. In attempting to reach the level of his readers Woodworth is at times ungrammatical, on many occasions inelegant, and throughout unskillfully playful. Followers of James in particular will resent the uncouth intrusion of this variety of familiar style on the dignity of pedagogical psychology. IRVING C. WHITTEMORE.

A HISTORY OF THE ASSOCIATION PSYCHOLOGY. By Howard C. Warren, Stuart Professor of Psychology, Princeton University. New York, etc. Charles Scribner's Sons, 1921. Pp. x, 328.

This valuable contribution to philosophic literature was projected eighteen years ago or more and six chapters of it then were written; but it was completed and the whole revised during 1920. It is one of the few noteworthy American contributions to the history of philosophy.

From the beginnings of associationism suggested simply in the "Phaedo" of Plato and its elaboration by Aristotle ("De Memoria," "De Anima"), the doctrine is traced to its culmination in Alexander Bain, Herbert Spencer, and George Henry Lewes. With the development of psychoneurology the particular tenets of the associationists, having very usefully served their explanatory empirical purpose, have gradually become of "only historic interest." Today as James advised, we study rather the association of neuronal impulses and their relations to the environment by way of the muscles and the sense organs, and thus make real progress, even if slowly.

The chapter headings indicate the scope of this significant contribution to psychological literature: —

"Association," "Mental Association from Plato to Hume," "David

Hartley and the Earlier Associationists," "James Mill and the Later Associationists," "Evolutionary Associationism," "Summary of English Associationism," "Continental Associationism," "Experimental Studies of Association," "Nature and Laws of Association," "The Associational Analysis of Mental States."

Then there is an ample bibliography on association (more than 200 titles); an excellent index; and an inserted chronologic table from Plato to Francis Galton that cannot fail to be used widely by teachers of philosophic history.

Professor Warren interprets the James-Lange "theory" of emotion for us in terms of associationism as follows: "The operation would appear to the associationist as a two-fold process. First the perception or thought of some situation arouses the emotional expression by association; this in turn by a second act of association, gives rise to the emotional feeling. Both of these steps involve successive association. But since the motor attitude persists along with the feeling, the two are united by the operation of simultaneous association. The distinctive experience called 'emotion' arises from this union of motor and affective elements." This quotation from a distinguished psychologist with excellent powers of expression and "quite sympathetic with the Association Psychology," shows capitally how little Associationism has to say in this year of joy that is worth the saying. But his concluding paragraph says much more: "The problem of neural activity still remains unsolved. Until we know just what occurs in the nervous system between stimulation and response, the issue remains open. The physiological processes which occur in the neurons of the brain may or may not be reducible to a single operation. Until this is definitely determined we are not in a position to appraise fully the work of the association psychologists."

GEORGE VAN NESS DEARBORN.

THE PSYCHOLOGY OF INDUSTRY. By James Drever, M. A., B. Sc., D. Phil., Combe Lecturer on Psychology in the University of Edinburgh. London. Methuen & Co., 1921. Pp. 141.

"This little book is intended not so much for the student of psychology as for the ordinary man," so writes Dr. Drever in his preface to "The Psychology of Industry." The book admirably fulfills its author's purpose. It gives a careful survey of the psychological results that have been reached in every branch of the broad, intensely interesting field of commerce and industry. It gives methods and tests, reviews experiments, and draws conclusions, thus enabling the layman to get a bird's-eye view of a subject which is of vital importance to him. Although there is little or no new material presented, the author cannot be criticized on this score. He is writing, not for the learned psychologist, but, as he says, for the ordinary man.

By means of his little book, Dr. Drever evidently hopes to remedy a condition that has hindered much the application of psychology to daily working situations, namely, the hostile attitude of the employee to the psychologist and his advanced methods. As Dr. Drever maintains, the psychologist is benefiting the workman as much as his employer, in many cases even more. The workman must be made to realize this fact. His refusal to consent to what he considers his exploitation for the enrichment of the capitalist is only natural. His hostility, however, will disappear as soon as he understands the actual situation.

Industrial psychology aims at elimination of waste, and waste of every kind, economic, social, and individual. For the individual this fact is extremely important. There are individual differences in physical and mental traits of the most marked degree. No two human beings can be found that even approximate identity. One man is fitted for one kind of work, another will be a success in but one field. Since this is the problem confronting both employer and employee, it is to the advantage of each that the right man be found for the right place. For the employer it saves the waste involved in constant labor turnover; for the employee, it means increased pay because his output is greater, increased interest and pleasure in his work, which according to Dr. Drever, is essential to a life worth the living. The new professional man, the psychologist, working in co-operation with the hard headed, practical business man, will make the worker's daily grind less irksome when he is no longer a square peg in a round hole.

Dr. Drever outlines a plan which seems an excellent solution to many of the existing difficulties, and which should open previously untouched fields of endeavor. He advocates the establishment of a central institute or bureau of industrial psychology, "preferably independent of government control, or civil service," although that would be exceedingly difficult, the council of which should represent the various interests involved, not merely that of the psychologist, and that of the business man, but that of the employee as well. This bureau would initiate and co-ordinate research, would control the professional psychologist, would be in close touch with employers' federations and trade unions, and help direct their activities. It would be "the heart and brain" of an organization controlling the skilful application of psychology in every sphere of industry. Testing, vocational and otherwise, of all college students, and in so far as practical of students in secondary schools; and filing, ready for use, the records of results thus obtained, would form an important branch of the work.

The résumé of the factors influencing efficiency of work is comprehensive and follows the most advanced theories in this field. Dr. Drever emphasizes the great factor of incentive. No human activity is motiveless, and the wise employer recognizes the potency of motive as a fundamental determiner of the output of his factory. Two branches in which work has been negligible are: the spirit of the worker, and the instinct of workmanship. How can the spirit which the worker displays at the baseball game Saturday afternoon be created during the week while he is at his bench? . . . Is there an instinct of workmanship? Drever thinks not, although he confesses the data on the subject is insignificant. In discussing fatigue, the author makes one point stand out, the now established law, incredible though it may seem to the layman, that a decrease in working hours leads to an increase in output. The economist can show that ultimately increased output means not decreased but increased employment. The attitude of the worker, however, is determined by immediate, not ultimate results. The workman as an individual must be convinced that he will not be the loser, and that the trade union will lose none of its influence. These difficulties of the transition period can be overcome by some effective guaranty against unemployment and loss. Once the system is smoothly running, the beneficial social results from it will be astonishing.

A statement, surprising to the layman but not so to the psychologist, is made by Dr. Drever, that overtime defeats its own ends. He cites many examples in which the output of the 8-hour a day man exceeded that of the man who labored overtime. The basis of his explanation is Myers' theory, that there is a sort of defence mechanism against excessive hours. The same difficulty is met in introducing this method that was found during the war in the munition factories where the rest and work interval scheme was put into operation. But here, as will be the case in other factories, the opposition vanished in face of greatly increased output.

Dr. Drever strikes the keynote of the whole problem of buying and selling when he says that the process is really based on psychological rather than economic factors, "for the demand is caused by felt human needs and wants, and the supply is of commodities for the satisfaction of such needs and wants." In another place, he continues, "the success of advertising depends almost wholly on psychological factors," and "knowledge of general human psychology is probably more important in business than a knowledge of applied psychology of advertising and salesmanship." This holds especially for the salesman who has the prospective buyer before him and can vary his appeal to suit the individual. His psychology must be that of the ordinary, everyday human being. In selecting a salesman there are certain qualities that make for success and others that hinder it. Vocational guidance will determine whether the man possesses these traits, and once the salesman is chosen, absurd though it may seem, he should be trained systematically. If possible, he must create an atmosphere of superiority about himself, for "any superiority in another, if it does not antagonize us, puts us in a receptive attitude towards him." In advertising, the power of suggestion, carefully used, is unlimited. Suggestion and repetition Drever would accord first place among the factors influencing the will to buy.

For Dr. Drever, the psychology of industry and commerce is only one aspect of a wider movement which he terms the "new" psychology. Psychology seeks to understand human nature in its widest sense, as it appears in human behavior. "The 'new' psychology," he says, "studies human nature to gain an insight into human behavior in order to control it and make it more efficient" both for the individual and for the whole social order. In the future, psychology will have a still wider scope, and be of still greater service to humanity.

NATALIE N. GRANTON.

THE CONQUEST OF FEAR. By Basil King. Garden City, N. Y., and Toronto. Doubleday, Page & Company, 1921. Pp. v, 270.

The author of "The Inner Shrine," "The Wild Olive," "The Thread of Flame," and "The High Heart," sold by the hundreds of thousands, never wrote a book that will appeal to so many weary and anxious souls, never preached a sermon that touched so many fear-haunted hearts, as will this, his latest volume. We who know him somewhat wonder, while we rejoice, at the self-revelation that we find therein. But surely in no other way could the volume have been given its own tremendous appeal to the fearful — to us all.

The chapter-titles are these: "Fear and the Life-Principle"; "The Life-Principle and God"; "God and His Self-Expression"; "God's Self-Expression and the Mind of Today"; "The Mind of Today and the World as It Is"; "The World as It Is and the False God of Fear"; "The False God of Fear and the Fear of Death"; "The Fear of Death and Abundance of Life." Many a deeply and intensely religious person, especially perhaps physicians, and neuropsychiatrists above all, as they read this book will wish that its religious tone were less obvious, because they will realize that many prejudiced minds, vastly in need of just the book's persuasiveness, will be turned away from it as a dogmatic, religious tract in which they would have no interest. But it is not so. To no thoughtful person could the religious spirit of this book be oppressive for it is broad and philosophic enough to appeal to all.

Doctor Charles Platt in a recent book has pointed out anew that "happiness consists in having only well-ordered, non-conflicting, perfectly compatible sentiments, from which the destructive emotions of fear and anger have been eliminated"; never perhaps has happiness been reduced to truer, simpler terms. Basil King tells us how to rid our souls of the fear — how he has done it for himself, a way that any one may imitate. None more fully than the readers of this Journal will appreciate how much this means.

It is not easy to exaggerate the prevalence of fear in all but a few of human souls. "Look at the people you run up against," says Mr. King, "in the course of a few hours. Every one is living or working in fear. The mother is afraid for her children. The father is afraid for his business. The clerk is afraid for his job. The worker is afraid of his boss or his competitor. There is hardly a man who is not afraid that some other man will do him a bad turn. There is hardly a woman who is not afraid that things she craves may be denied her, or that what she loves may be snatched away. There is not a home or an office or a factory or a school or a church in which some hang-dog apprehension is not eating at the hearts of the men, women, and children who go in and out." God knows, if men clearly do not, how true that is!

"If, therefore, one has the feeblest contribution to make to the defeat of such a foe, it becomes difficult to withhold it. . . . These pages will contain, then, no recipe for the conquest of fear; they will offer, with much misgiving and diffidence, no more than the record of what one individual has done toward conquering it. This record is presented merely for what it is worth. It may be worth nothing. On the other hand, some one may find it worth something, and in that case all that the writer hopes for will be attained."

The book is a "human document" as well as a theological dissertation which *every man* can understand and make his own. It breathes of creative evolution, of immediate practical help to multitudes of fearful and hence unhappy mortals, and therethrough, as well as intrinsically, it breathes of God.

George Van Ness Dearborn.

The Biological Foundations of Belief. By Wesley Raymond Wells, Ph. D., Lake Forest College. Richard G. Badger, Boston. Pp. 120.

This small book is a collection of five very stimulating essays, convincing in parts, especially in that dealing with the difference between religious belief as value and as truth; and provocative of thought all the way through.

In treating so large a subject in so narrow a compass the empirical method was, of course, impossible. The questions, however, so well broached in this book should receive empirical treatment. For his purposes Dr. Wells lumps all religious beliefs into one abstract "religious belief," which he says has survival value. To prove that religious belief, *per se*, is an instrument of survival would take a very large volume indeed. No one doubts that some beliefs have survival value, e. g., the optimistic religions; but there have been — as he says — and still are, pessimistic beliefs, the holders of which survive in spite of their religion. There are so many elements at work in survival that the fact that a belief has survived does not in itself give it positive biological value. Then, too, how long must it survive to have survival value? What kind of biological value did the beliefs that perished have?

As Marrett points out in his *Anthropology*, "It is dangerous to make sweeping generalizations, but there is at any rate a good deal to be said for classifying the world's religions either as mechanical and ineffective, or as spiritual and effective." But the author, apparently, was not interested in the non-useful beliefs, which he thinks have not survived. Like the bad parasites they were, these beliefs evidently killed off their hosts. He goes on, therefore, to show that the religious attitudes which have proved useful in the history of the race, taboo, legalism, and redemptive religion can (in line with the recapitulation concept) be made to serve in the religious instruction of the child, the pre-adolescent, and the adolescent, respectively. If later, the child, now a man, from the height of ethical morality, looks down on this threefold type of religious instruction, it will not be with disdain for its untruth, but (shall I say, like the author?) with thankfulness for its usefulness in his time of need.

Dr. Wells, following Professor McDougall, founds religious belief on the emotions (each with a corresponding instinct) of wonder, negative self-feeling, fear, and the tender emotion. With Freud he seems to think, also, that sex love may be a ground. He further says, "There may be a temperamental basis for susceptibility to religious belief, and temperament is hereditary," p. 26.

The chapter on "The Pragmatic Fallacy and the Fallacy of False Attribution" is all that could be desired to show that one may think a religious belief valuable without believing that it is true. Chapter III, "A Classification of Religious Values" gives a somewhat technical nomenclature to almost all possible conditions and values of beliefs.

The interesting distinction between "metaphysical" and "scientific" beliefs, postulated in order to escape a logical difficulty, quite arbitrarily divides between the very bone and marrow of primitive beliefs, which are as much "scientific," i. e., put to the test, as "metaphysical," i. e., "trans-experiential."

A very stimulating book; even though, or perhaps because, it stimulates one's critical attitude now and then. PAUL CAMPBELL YOUNG.

THE NEW HORIZON IN LOVE AND LIFE. By Mrs. Havelock Ellis. With a preface by Edward Carpenter and an introduction by Marguerite Tracy. Portrait frontispiece. London. A. and C. Black, Ltd., 1921. Pp. xi, 200; demy, 8vo. Price, 10/6 net.

Mrs. Edith M. O. Lees Ellis, born in 1861, the greatly lamented wife of the distinguished author of "The Psychology of Sex," lectured many times in the United States in the memorable autumn of 1914. This volume is made up of some of her lectures and essays, written between 1891 and 1915. Hers was a memorable personality, and is well denoted in the octette of Vincent Starrett's sonnet to her memory:

"Fearless in death as life her soul fares forth
Into the dark, and lights the way ahead.
We may not think of her as with the dead,
Whose shining purpose lives to mark her worth;
Whose prescient vision looked to happier years;
Whose lucid mind and thought for freedom spoke,
Seeking to lift the suffocating yoke
Of superstition and ignoble fears."

Fifteen essays make up the present volume and they are divided into two groups, the former entitled "Love and Marriage," the latter "The New Civilization." The names of the former eight respectively are these: "The Love of Tomorrow," "A Noviciate for Marriage," "Semi-Detached Marriage," "Marriage and Divorce," "Eugenics and the Mystical Outlook," "Eugenics and Spiritual Parenthood," "Blossoming-Time," and "Love as a Fine Art." There are besides a small special bibliography and an index.

The intimate relation of half, at least, of this volume to abnormal sociology and psychology may be seen from a sample paragraph: "To woman, under her habits of fear and tradition, sex is too often associated with hypocrisy, humiliation, and a necessity to use her body as a lure to exploit men. She often tries to crush her fine instincts in order to please man, or she becomes a prude in order to please herself, and so flings the one she thinks she loves, and herself she thinks she understands, into debauches or episodes through sheer boredom or self-righteousness. Yet the finer type of modern woman, — half mystic, half mother, with her reverence for sex and her desire for life equally balanced — is becoming more in evidence year by year." "Sex is not a mania," says Mrs. Ellis, "it is a mysticism." "Both conception and birth have their mystic message in woman from her head to her feet." "The laws of love are as little understood as the laws of music or painting by the average person, and yet they are as tremendous in their action as the laws of gravitation."

The beautiful modesty of this book charms one while its wisdom-of-life instructs. "A great love is a sacrament, and bread and wine do not fail at the high altar." GEORGE VAN NESS DEARBORN.

THE ORIGIN AND DEVELOPMENT OF THE NERVOUS SYSTEM, From a Physiological Viewpoint. By Charles Manning Child, Professor of Zoology, University of Chicago. Chicago, Illinois. The University of Chicago Press, 1921. Small 12 mo. Pp. xvii, 296; with seventy textual illustrations.

This is the eleventh volume in the University of Chicago, Science Series, edited by Professors E. H. Moore, Coulter, and Millikan, who are to be congratulated on the production of convenient, well printed, and (relatively) inexpensive books of research-science.

Four sentences from the Preface help to orient the reader:

"This book is first of all a consideration in the light of recent experimental investigation of certain of the physiological conditions which antedate the appearance of the nervous system, and with which its appearance and development appear to be closely associated. It is, in fact, an attempt to establish the existence of physiological continuity between the simple quantitative gradient in physiological condition and the nervous system. . . .

Since the book is concerned first with this question of continuity and its nature and since no general consideration of the physiological gradients has appeared since 1915, it has been found necessary to devote the earlier chapters to a discussion of pattern in the organism and its relation to the gradients. These chapters constitute the basis for the consideration of the nervous system in the stricter sense, which follows."

Chapters X and XI, respectively concerning the problem of neuron-pattern and the origin of neuron-pattern, would be of special interest to the readers of this Journal, since they contain explicit new material concerning the probable dynamic incentives in the development of the neuron-pattern — of course a master-problem of neurology. Electrical polarization is Professor Child's preference among suggested hypotheses. He considers the reaction of the neuroblast as it develops not as simply a matter of electrical attraction (in Kappers's sense) but rather as a change in physiological condition, resulting primarily from the electrical polarization of the cell through the action of the protoplasmic current to which it is exposed. Very recently Ingvar apparently has succeeded in determining the direction of the outgrowth of neuroblasts in tissue-culture by means of electrical currents. Should this be corroborated and extended, this theory as to neuron-pattern construction will have been shown to be mainly correct.

"If we maintain that organismic pattern is not fundamentally a relation of [environmental] excitation and transmission, . . . the nervous system appears essentially as a special creation superimposed upon the organism." The present "conception gives us physiological continuity from the beginning of the organism to the highest stages of nervous development attained in the individual, or, stated in still broader terms, from the simple physiological gradient to the ego." If then, starting here, we integrate this with recent doctrines such as those of H. Jackson, Sherrington, Freud, Jung, Adler, Kempf, White, Lay, etc., we shall see ready a solid staging from which not a little scientific insight as to human behavior may be constructed in the mind of the student of man. Toward this satisfaction Professor Child's present book makes a most gratifying contribution — original, simple, scientific.

George Van Ness Dearborn.

THE PSYCHOLOGY OF THOUGHT AND FEELING. A Conservative Interpretation of Results in Modern Psychology. By Charles Platt, B. S., Ph. D., M. D., F. C. S. (Lond.) New York. Dodd, Mead and Company, 1921. Pp. xi, 290.

This book is a useful popular account of the human mental process, about two thirds of it being concerned with the normal working (including a chapter on its education) and one third with the mind when "out of order." In it one hears more often perhaps of Professor William McDougall's classifications than of any one's else, but apparently William James, Henri Bergson, and H. H. Goddard were also often in the author's thought. It is "eminently a common-sense book. The author knows no favorite school of psychology, and follows thought logically wherever it may lead. The emotions, habit, thought, memory, the mind cure, the unconscious mind with all its relations to our conscious lives, and education, as viewed psychologically, are some of the subjects treated; and with these there is too, a study of the abnormal, both as exhibited in the individual, in mental ills and also in the socially inadequate, the criminal and the delinquent. The practical bearing of all this in its social relation and the education of the child has been kept always in the foreground."

Besides a preface and an excellent index (thanks and congratulations, British writer of science!) there are thirteen chapters, dealing respectively with certain fundamental conceptions, anatomical and otherwise; inherited dispositions (fear and anger); other inherited dispositions (sex, tender emotion, play); the compound emotions; habit; memory; knowledge and intelligence; thought and judgment; education; the subconscious mind; mental ills; the crowd; and the delinquent, — surely applied psychology.

The psychological calories are present in this feast of wisdom, with all due vitamines and the indispensable elements and *bausteiner*, and yet the service is so good that we almost forget them for once in the flow of soul.

One would look far before finding a clearer or more straightforward popular exposition of "the subconscious," of the psychoneuroses, or of the "collective mind." The author's ideas on spiritism, too, are eminently conservative as befits the trained scientific clear-thinker. The volume should win a wide reading among intelligent folk everywhere.

GEORGE VAN NESS DEARBORN.

A PSYCHIATRIC MILESTONE. Bloomingdale Hospital Centenary. (Privately Printed by the Society of the New York Hospital, 1921.)

"The One Hundredth Anniversary of the establishment of Bloomingdale Hospital as a separate department for mental diseases of The Society of the New York Hospital was celebrated at the Hospital at White Plains on Thursday, May 26, 1921."

The celebration took the form of a series of addresses by Edward W. Sheldon, Esq., Dr. Adolf Meyer, Dr. Lewellys F. Barker, Dr. George D. Stewart, Dr. Richard G. Rows (London, England), Dr. Pierre Janet (Paris, France), and Dr. William L. Russell.

These were followed by a very beautiful tableau-pageant, expressing in dramatic form the history of the hospital, and also the development of the treatment of the insane from the time when the charter was granted by King George the Third down to the present time.

Following are the addresses delivered at the Centenary Celebration of the Bloomingdale Hospital — together with certain historical documents representative of the early steps of psychiatry in this country. The implication of the existence of this book must of necessity give it dignity and importance.

The first address is that of Mr. Edward W. Sheldon, setting forth in a terse and interesting way the development of the Hospital.

In "The Contributions of Psychiatry to the Understanding of Life Problems," Dr. Adolf Meyer has attempted to state, without argument, the position of that school of psychiatry which he represents. Man has been thought of "as a mere sum of parts, if possible of atoms, or now of electrons, and as a machine, detached by itself, because at least some points in the simpler sciences could be studied to the best advantage with this method of the so-called elementalist." Dr. Meyer inveighs against "that disturbing obsession of translating all mental reactions into something artificial before we can really study them and work with them." His is a plea to break the bonds, for as such does he seem to picture the processes of exact science, of the fundamental sciences. If we will only consider "the large momentous facts of human life just as we find and live it" we will find for psychiatry a field for social satisfaction and a new appreciation of the religious life and needs of our race. The private hospital is free of many of the tramellings which hamper the state institution and is "a more or less privileged forerunner in standards and policies."

Dr. Lewellys F. Barker in speaking of "The Importance of Psychiatry in General Medical Practice" attempts to bridge the gap between the psychiatrist and the general medical man. The chief reasons for this gap are — (1) the social stigma attached to psychiatry, (2) the failure of our general education to interest students in psychological concepts as being adequate symbols of reality, (3) that the majority of medical teachers are so absorbed in the morphology, etc., in their subjects that they rarely give their students any inkling of the psycho-biology, (4) that the language of the psychiatrist is formidable and unique, (5) that the overemphasis of psycho-genic factors arouses suspicion as regards the soundness of the opinion and methods of all psychiatry, (6) the fear of insanity among the laity, (7) the supposed mysterious character of psycho-therapy, (8) the rise of specialism. This specialism has made impossible the study and treatment of any patient from all angles by any one physician. The formation of diagnostic groups under the leadership of an integrating internist will assure co-operation between other groups of medicine and psychiatry while still retaining the tendency towards specialism.

We are somewhat surprised to find in the Chairman's remarks as to the unfortunately enforced absence of Dr. Owen Copp that the Pennsylvania Hospital is the "sole elder sister among American Institutions." As McLean Hospital received its first patient in 1818 it is difficult to justify this statement. These remarks are followed by a short expression of felicitation on the part of Dr. George D. Stewart for the New York Academy of Medicine.

Dr. Richard G. Rows (England) discusses "The Biological Significance of Mental Illness." Emotional conditions of anxiety and depression arise from "any disturbance of the harmonious activity of the functions of perceiving, thinking, feeling, judging and acting." The memory of unpleasant experiences may be associated with emotions of misery and fear as a habit and when once a habit of mind is established it is remarkable through what a host of stimuli received in ordinary daily life the cause of the disturbance can be recalled. The revival of a memory may affect the functions of the internal glands, and the changes produced in them may react on the sensibility and reactivity of the nervous mechanism. The disturbance of one organ may interfere with the function of another and in the repetition of all of these influences we may find an explanation of the chronicity of many of these illnesses. "A study of the activities and inter-activities of all the organs of the body is, therefore, essential and must be made before we shall understand the biological significance of mental illness."

Dr. Pierre Janet's "The Relation of the Neuroses to the Psychoses" represents a masterful summary of the notions which he has been upholding and developing for many years. Within the spheres of different complexity the neuroses and psychoses represent alterations in the social conduct. "If one is willing to understand by the word 'evolution' the fact that a living being is continually transforming himself to new circumstances, neuroses and psychoses are disorders or halts in the evolution of functions in the development of their highest and latest part." There may be all sorts of causes, but there is one common factor — a diminishing of vitality. It is true that frequently acts appear exaggerated rather than diminished, but these are simply reflex or perceptive reactions. Never has Dr. Janet been clearer or more logical. Attempting to differentiate on other than the accepted legal basis, he says "We are capable of wills and beliefs of a superior order when we reach decision after reflection. The operation of reflection which hinders tendencies and maintains them in the shape of ideas constitutes the highest form of the medium operation of the human mind. Lower still there exist will and belief, but these are formed without reflection, without stoppage of ideas, without deliberation; they are the result of an immediate assent which transforms verbal formulæ into wills and beliefs as soon as they strike the attention. The immediate assent is the inferior form of these tendencies. If one wished to establish a scientific distinction between neuroses and psychoses I should say in a summary fashion that in neuroses the reflection alone is disturbed, and that in psychoses the immediate assent itself is affected." Neuroses are, therefore, intermediate between the errors of normal life and alienation.

Dr. William Russell in "The Medical Development of Bloomingdale Hospital" briefly outlines the history of the hospital and quite as briefly outlines the plans for further development. These latter include, "A department in the city at the General Hospital; provision for the treatment of psycho-neuroses; better provision for a further period of readjustment after the patient is ready to leave the hospital; a more extensive use of the hospital as a teaching center and an extension of the teaching of the nurses."

The Tableau-Pageant, which was performed on the lawn of the hospital, is described. Six scenes were depicted representing milestones in the development of psychiatry, beginning with the granting of a Royal Charter to the Society of the New York Hospital.

In the appendix appear some copies of early documents. Chief of these is a letter from Samuel Tuke and a communication from Thomas Eddy in which he outlines his plans for the Bloomingdale Hospital to be erected. Without reading these letters it is difficult for the modern psychiatrist to realize the changes of the last 100 years. Moreover, without reading the letter of Dr. Tuke it is difficult for us to realize how much of that progress belongs to him.

If we except Janet's address the volume is not polemic. Had the book intended to establish the unchallenged domination of those schools represented by the authors, it would be sufficient as it stands, but as a mere survey of claims, we cannot but regret the omission of the claims of some "elementalist." Even were we without reserve to rejoice with Dr. Meyer in his final escape from the toils of science, it seems rather a lack of appreciation of what the last 100 years has meant that the volume does not include some speaker for the Kreapelinian school. We also miss the prophecy. True there are hopes of development and vaguer statements of bigger things to come, but in vain do we look for any adequate discussion of what will certainly be the problem of the next 100 years — the attitude of the mental hospital towards the great social problems of psychiatry. With Dr. Russell we may feel that "the lines of further development are not yet perfectly clear in all directions." Yet it seems that the book and the exercises would be better rounded with some, mayhap dreamer's, challenge that the mental hospital leave its splendid isolation to tread the peopled, if muddy, ways. JAMES S. PLANT.

NOTES

The first volume of a series of reprints and translations, to be known as *Psychology Classics*, is in press and will appear shortly. The series is to be edited by Knight Dunlap and published by the Williams and Wilkins Company in Baltimore. The first volume contains a translation, by Miss Istar Haupt, of Lange's monograph on *The Emotions*, with reprintings of James' article *What is an Emotion?* from *Mind* and his chapter on *The Emotions* from the *Principles of Psychology*.

In order to facilitate the preparation of further translations and reprints, the royalties from these volumes will be matched by an equal amount by the Williams and Wilkins Company, the fund so constituted to be deposited with the Treasurer of the Johns Hopkins University, and to be applied solely to the defraying of clerical and other necessary expenses of such preparation. The editor requests suggestions concerning future volumes, and co-operation in their production.

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A complete report of the history, methods and results of psychological examining in the United States Army has been recently published in the Memoirs of the National Academy of Sciences, Volume 15, 1921. The report is edited by Lieut. Col. Robert M. Yerkes, Chief of the Division of Psychology, as an official document for the Surgeon General of the Army. It consists of three parts bound in a single volume. Part I, presenting the official history of the development of the service and its activities during the war, is supplemented by reproductions of all of the printed materials devised and used in conducting psychological examinations. Part II includes a complete account of the preparation of methods, their characteristics, and their evaluations as practical procedures. In Part III the results of examining are summarized.

The entire report may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., at $1.75 per copy. It appears in quarto size under the title "Psychological Examining in the United States Army," and includes vi plus 890 pages.

Directory of American Psychological Periodicals

American Journal of Psychology — Ithaca, N. Y.: Morrill Hall. Subscription $6.50. 600 pages annually. Edited by E. B. Titchener. Quarterly. General and experimental psychology. Founded 1887.

Pedagogical Seminary — Worcester, Mass.: 950 Main Street. Subscription $5. 575 pages annually. Edited by G. Stanley Hall. Quarterly. Pedagogy and educational psychology. Founded 1891.

Psychological Review — Princeton, N. J.: Psychological Review Company. Subscription $4.25. 480 pages annually. Bi-monthly. General. Founded 1894. Edited by Howard C. Warren.

Psychological Bulletin — Princeton, N. J.: Psychological Review Company. Subscription $5. 720 pages annually. Psychological literature. Monthly. Founded 1904. Edited by Shepherd I. Franz.

Psychological Monographs—Princeton, N. J.: Psychological Review Company. Subscription $5.50 per vol. 500 pp. Founded 1895. Ed. by James R. Angell. Published without fixed dates, each issue one or more researches.

Psychological Index — Princeton, N. J.: Psychological Review Company. Subscription $1.50. 200 pp. Founded 1895. Edited by Madison Bentley. An annual bibliography of psychological literature.

Journal of Philosophy — New York; Sub-Station 84. Subscription $4. 728 pages per volume. Founded 1904. Bi-weekly. Edited by F. J. E. Woodbridge and Wendell T. Bush.

Archives of Psychology — Sub-Station 84, N. Y.: Archives of Psychology. Subscription $5. 500 pp. ann. Founded 1906. Ed. by R. S. Woodworth. Published without fixed dates, each number a single experimental study.

Journal of Abnormal Psychology and Social Psychology — Boston. Subscription $5. Edited by Morton Prince. Quarterly. 432 pages annually. Founded 1906. Abnormal and social.

Psychological Clinic — Philadelphia: Psychological Clinic Press. Subscription $2.50. 288 pages. Ed. by Lightner Witmer. Founded 1907. Without fixed dates (9 numbers). Orthogenics, psychology, hygiene.

Training School Bulletin — Vineland, N. J.: The Training School. Subscription $1. 160 pp. ann. Ed. by E. R. Johnstone. Founded 1904. Monthly (10 numbers). Psychology and training of defectives.

Comparative Psychology Monographs — Baltimore: Williams & Wilkins Co. Subscription $5. 500 pages per volume. Edited by W. S. Hunter. Published without fixed dates, each number a single research.

Psychoanalytic Review — Washington, D. C.: 3617 10th St., N. W. Subscription $6. 500 pages annually. Psychoanalysis. Quarterly. Founded 1913. Ed. by W. A. White and S. E. Jelliffe.

Journal of Experimental Psychology — Princeton, N. J. Psychological Review Company. 480 pages annually. Experimental. Subscription $4.25. Founded 1916. Bi-monthly. Ed. by John B. Watson.

Journal of Applied Psychology — Worcester, Mass.: Florence Chandler. Subscription $4. 400 pages annually. Founded 1917. Quarterly. Edited by James P. Porter and William F. Book.

Journal of Comparative Psychology — Baltimore: Williams & Wilkins Co. Subscription $5. 500 pages annually. Founded 1921. Bi-monthly. Edited by Knight Dunlap and Robert M. Yerkes. (P. B.)

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ORIGINAL ARTICLES

PSYCHOLOGICAL FACTORS IN BIRTH CONTROL[1]

By KNIGHT DUNLAP
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THE statement that the common prejudice against birth control is largely religious is true, but it answers no important question. Almost every type of human activity, especially in regard to matters of eating, drinking, and sex function, is, or has been, taboo in some one or other of the religious systems of the world. All forms of behavior in regard to which large groups of people entertain strong and emotional opinions have been connected up with religious beliefs and religious systems. The reasons for the existence of such opinions is therefore to be sought outside of the religions to which they become attached. Moreover, the particular prejudice against birth control exists, in violent form, among those also who are not counted as "religious" in the ordinary sense of the word, although we might contend that in a wider sense, the manner of holding the opinion is religious.

The prejudice is sometimes defended on the score of the "unnaturalness" of contraception. It cannot be conceded, however, that any prejudice ever has arisen from such considerations. The distinction between that which is "natural" and that which is "unnatural" has ever been drawn solely on the basis of that which we approve as against that which we disapprove. The public does not stop to consider the fact that every operation of man or of any other animal is inexorably in accord with the laws of nature, and hence "natural"; but applies the condemnatory epithet "unnatural" strictly to those acts and practices which are believed to be against morals, or public interests, or the interests of the individual; and the "unnaturalness" is never the reason for the condemnation, but only the form thereof.

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[1] A paper presented before the fifth international birth control conference, London, July 12, 1922.

That the permission to practice contraception infringes upon the rights of the individual as such has never been seriously considered. It has not been supposed, so far as I know, that the proponents of birth control propose to force any one to practice that measure. On the other hand, many of the most active opponents of birth control obviously practice it themselves, and some of them even urge the employment of forced methods of birth control, such as delayed marriage and voluntary restraint of intercourse, upon certain sections of the population. The actual objection of the conservatives is against the popularization of information concerning contraception and the offering of means thereto to the public, so that any individuals may be enabled to practice it freely if they wish to. The basis of the prejudice is obviously a social one, in so far as we can distingiush the social from the individual.

The prejudice against birth control, as it exists, is an expression of one of the strongest tendencies of living organisms; but it is the expression of the tendency as it occurs in the social group ("social organism," if you will), not as a merely individual tendency. Every form of life has the primary tendency to perpetuate itself; and in the human organism this tendency is manifested not merely in blind action-tendencies, but consciously also in the twin desires for progeny and for sexual relations (the reproductive and amatory desires). The existence of the social group is tied up not only with the desire to perpetuate and expand the group, but also with many subsidiary desires and unintelligent forms of reaction which all tend towards the common end of growth of the group.

Nothing else so arouses the antagonism of the individual as does interference with the reproductive desires and activities, or with the merely sexual activities and desires which coöperate with the reproductive. On the social plane also, interference with the perpetuation, growth and expansion of the group arouses the antagonism of those individuals within the group who have the "group-feeling" strongly developed, and whose blind desires and tendencies in regard to the group are not modified or controlled by ethical considerations which subordinate the desire for mere magnitude to desires of higher valuations.

The opponent of birth control is therefore not concerned about the practice of contraception by himself, or by any other limited class in the race, nation, or other social group. His concern is solely that there shall be a part of the group unaffected by birth control, and sufficiently large to provide for rapid multiplication of the group as such. The means he proposes to adopt to secure this end, whether religious means, legal means, or any other, are secondary in their origin and nature, however primary a place they may come to occupy in his own theories. His prejudices are, in short, the expressions of desire for the growth of the group, a desire which is of high value in stages of society in which a rapid increase of society is useful, but which becomes dangerous when the population has reached a sufficient height, unless the desire is controlled by understanding of the actual conditions and by eugenic and ethical ideals.

The expressions of the group reproductive tendency are various. Fears that the particular racial stock or particular social class which the individual represents will die out are frequently expressed. Naturally, the fear of a nation's falling in fighting power below the power of rival states is most common. But in all these fears, it is the group which is under consideration, not the individual; and hence the practice of birth limitation by an individual is not inconsistent with his intense antagonism against the practice by members of the group generally. These fears are not by any means idle, and the considerations on which they are based must be fully met by advocates of general dissemination of knowledge concerning contraceptives.

Another form of expression of the group reproductive tendency is in the fear of increased immorality which might result from popular knowledge of contraceptive measures. This point is the least important of the lot, and most easily disposed of. It may be pointed out: (1) that there is no manifest evidence that those classes which to-day possess contraceptive knowledge are more given to illicit intercourse than the ignorant class; and (2) that the absence of means of contraception does not serve as a deterrent to immorality.

Sexual desire is as readily controlled by habit as is any other human desire. Both in primitive and civilized society the systematized habits known as "taboos" operate, not by preventing the satisfaction of desire, but by checking or preventing the arousal of desire. This is illustrated by the incest convention, as well as by the convention against illicit intercourse, where such conventions obtain. The individual refrains from incestuous relations because his acceptance of the convention restrains him from active desire. If, however, in spite of the convention the desire arises, the taboo is usually broken, if opportunity offers. In the exceptional cases, the satisfaction of the desire is prevented by fear of specific consequences, or by internal conflicts. That the latter solution is intrinsically a bad one needs no argument. Where fear operates, it operates not by restraining the desire, but by turning it into perverted channels. In this case also, the results are disastrous.

The pathological cases of fear and conflict are relatively few. In most cases, where desires arise illicitly, in spite of conventions, the result is simply that the conventions are broken. Sexual desire, strongly aroused, is a flood of emotional activity which it is difficult to check without bad consequences. And in the case of illicit desire, the prevalence of illegitimacy and abortion show plainly that absence of means of contraception is not an effective means of checking it. The question of improving or conserving sexual morality is one of education; specifically, of the maintaining of moral codes or ''taboos'' which are so early formed and so rigorously maintained that the illicit desires do not arise.

Aside from the matter of illicit sexual relations, it has been alleged that the use of contraceptive measures is detrimental to the individual. Two specific effects of such practices have been assumed: (1) an increase in amount of sex activity, conducing to excess; and (2) the production of an abnormal emotional attitude due to interference with the normal conditions and course of sex activity. On the first point there seems to be no conclusive evidence, and it seems hardly possible that, in the case of the common type of married couple, the absence of contraceptive procedure diminishes the frequency of sexual intercourse to any significant degree. In general, amatory desire is not inhibited in such ways, although it may be turned into channels of perversion; and various perverted forms of satisfaction are, on this account, practiced by both married and unmarried persons.

The second point is more important. There can be no doubt that all the commonly known contraceptive measures are psychologically objectionable, and if frequently employed, they produce bad effects of greater or less extent. These measures either modify essential stimulations, or interrupt the normal course of the sexual passion and activities, and are hence positively dangerous. It should not be forgotten that not only the rise of the sex passion, but also, in the woman, its decline after the climax, has a typical form which cannot be interrupted with impunity. Aside from the production of frigidity in the woman and of chronic irritation and impotency in the male, very serious psychological deteriorations in the subtler emotional relationships of couples, leading in some cases to disintegration of the family relationship, are unfortunately common results of the usual contraceptive practices.

These practices produce their evil effects in illicit unions as surely as they do in the marriage state, although perhaps the effects are more easily noted among married couples. But contraceptive measures are extensively used in legal and illicit unions, and will unquestionably continue to be used. The birth-control problem of maximal importance centers, therefore, about the development of contraceptives which shall be free from the psychological objections. Based on the opinions of a number of competent medical men and physiologists, my conviction is that such contraceptives can be developed, if the problem is attacked in a serious and systematic way by a group of men of adequate training in embryology and physiological chemistry. Such research ought by all means to be furthered at once in European countries, since on account of the hysterical state of the public in America on these questions, the suitable prosecution of this research is at present impossible here.

The problem of race or group deterioration, above referred to, is by no means simple. Under present conditions, the more intelligent individuals in any group, and the more intelligent races generally, practice contraception, and the very worst eugenic results are obtained. As a merely negative means, extending the information to the lower races and to the less intelligent members of the group would seem requisite. While this may be a simple matter in any group or race in which the better classes already practice contraception, the result of restoring the balance in the higher races might conceivably be that they would eventually be crushed out by the lower races, if these do not limit their rates of increase.

The only solution of this problem is an active agreement among the nations of the earth by which no nation shall be allowed to commence aggression on other nations; from which it will result that any nation which reaches the limit of population which its domain can support will be compelled to adopt contraceptive means. If, for example, the white races stand together, and Japan is not allowed to seize the lands of other peoples, or to transfer its surplus population into the lands of other peoples, it must of necessity limit its increase by adopting the means of birth control which may be offered it. Since birth control is already practiced and will continue to be practiced by the higher nations, this necessity is now upon us, and a real "League of Nations" must become an actuality if civilization is to be maintained.

On the positive side, the effect of popularization of contraceptive information raises some interesting questions: (1) Is it not possible that those individuals who desire children, up to the number which can be adequately educated and provided for, are intrinsically representative of better stocks than are those whose reproductive desires are weaker? We must, in considering this question, distinguish the amatory desire from the reproductive. (2) Would not the individuals of inferior type within a given nation (feebleminded, negroes, etc.) be *more* inclined, relatively, to practice contraception than are the superior individuals?

On neither of these questions is there a possibility of making a decisive statement. The first question is a purely scientific one, and might ultimately be solved by scientific investigation. The second question is practical, and is complicated by the religious prejudice deliberately inculcated among the lower classes. On the whole, however, I incline to think that although religious prejudice is a great obstacle to the spread of information on birth control, it is not by any means a serious obstacle to its practice, on account of the fact previously brought out, that the real prejudice on which the religious objection is based is social and not individual. I am, moreover, seriously inclined to believe that if methods of contraception which are simple, easily accessible and inexpensive, were brought within the reach of the negro women generally in the United States, our "negro problem" would be solved in one generation. Although the amatory desire of the negro is enormous, his reproductive desire is not great.

As in the case of every great movement, good or bad, the problem of birth control is primarily one of education; a problem of promulgating ideas. Hence in conclusion, a word concerning the psychology of propaganda is entirely pertinent.

There is a grand principle of propaganda which lies at the basis of all progress, and of all changes in opinion and all conservation of opinion. All propaganda is planned to bring about the acceptance of ideas. This is true of commercial advertising; and it is true of agitation for reform or against it. The first step in the acceptance of an idea is the thinking of the idea. If you can get your man to actually think your idea, the first step, and the absolutely essential step, is taken. And in accordance with the general psychology of habit formation, the more often he thinks it, the nearer he is to ultimate acceptance. Optimally, you should get him to think it *without argument*, since argument tends to bring about conflicting thoughts. The idea must first of all become familiar. But since conflicting ideas will occur, either through association, or through the efforts of rival propaganda, reasons must be presented, but with as little wrangling and argument as possible. This method has actually been employed by the opponents of birth control with great success. The press, and speakers having the public ear, secure the adherence of the public by denouncing, by ridiculing, and in general by much talking, but avoiding argument.

On the other hand, the attention of the public must be secured. Mere hearing or seeing is not enough; the ideas must actually be thought. And nothing gets the public ear like a fight. Woman suffrage in the United States went ahead rapidly as soon as the organizations opposed to suffrage became active and a real fight was on. The men then sat up and took notice; and the ideas did their work. But in a fight, it is never the opponents who are converted; only the onlookers are susceptible.

Apparently, any kind of an idea, good or bad, can be "put over," if the presentation is skillful and the opposition is not at least as skillful. And this is true; temporarily at least. But the idea which has truth behind it has the strong advantage in the long run, because it can be thought in coherence with its setting, when the setting is ultimately presented. Nevertheless, the observance of the psychological laws of propaganda helps amazingly. And these laws are: have an idea, state your idea and its supporting reasons clearly, and keep on stating them without cessation, but with the least possible arousal of antagonism. When you do stage a fight, stage it with those you do not hope to convert, for the benefit of those whom you do. Or, I might sum these laws up in fewer words: Raise your ideal and never stop talking about it; but talk amiably.

THE EFFECT OF SUGGESTION ON A CASE OF TRAUMATIC HYSTERIA

By KATE BROUSSEAU

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Lameness, hysterical contractures, anesthesia, hyperesthesia lasting four years, due to slight injury; complete recovery after three days of treatment by suggestion.

ANNIE J. is a young woman of 26, mental age 9, birthplace Germany, in this country since early infancy. Parents are dead; no data available concerning the family. She is known, however, to have a married sister who is normal. She has been in an institution for the feebleminded since childhood. The girl, slender and undersized, was a willing, capable worker in the laundry prior to an accident which caused lameness and also contractures of the muscles of the left arm.

Some years before the following experiment the girl fell downstairs bruising her left hip, and although the accident was not serious, she was confined to her bed for several weeks. Shortly after her recovery she developed lameness on the left side, accompanied by considerable pain. An examination was made but no fracture or dislocation could be discovered, although the symptoms indicated serious local disturbance. An X-ray could not be taken as the institution did not possess the necessary apparatus.

This study was made four years after the accident. The girl was then found to be anemic; her general condition was very poor. She could not stand erect, the body being bent over nearly double, and she walked with great difficulty. The contractures included not only the muscles of the left leg but also those of the left arm, a condition which suggested paralysis. A point to be noted is that the position of the arm and hand, including the fingers, was similar to that noticed in the inmates in the institution who were suffering from spastic paralysis. There was an extremely painful zone over the articulation of the left hip, the slightest touch provoking cries and trembling. On the other hand, a survey with the esthesiometer brought to light areas of diminished sensibility in various parts of the body. Several preliminary tests showed that the girl was suggestible to an abnormal degree, responding not only to suggested sensations of pressure but also to those of heat and cold. I took up a strip of adhesive plaster, observing to the nurse that it was very hot, this strip was placed on the patient over the gluteal region and it brought forth the cry, "It burns, it burns!" A similar strip of adhesive was held up with the remark that it was extremely cold. This was placed by the side of the first strip and the patient began to shiver violently.

The history of the injury, the presence of the contractures, the painful zone and anesthetic areas and the extreme degree of suggestibility gave an indication of hysteria. At my request, the girl was therefore removed to a private room in the hospital for further tests. Hypnosis could not readily be induced and psychoanalysis was impossible since the girl was subnormal; it was necessary, therefore, to resort to direct suggestion.

It was explained to the girl that the lameness and the attendant pain could be relieved; that new apparatus had been provided for the purpose and that her coöperation was necessary. A cure could be effected within ten days, she was assured—this in spite of the fact that the lameness had extended over a period of more than four years. It must be remembered that Annie was subnormal. It was impossible, therefore, to make her understand that her disability had no organic basis. It was necessary to make the suggestion in a way that would appeal to a childish mind. Prior to the test an attempt was made to bring Annie to an erect, standing position; she was supported on either side so that the strain would not be too great upon muscles weakened by long disuse. The effort, however, was unsuccessful and provoked loud cries indicating excruciating pain.

A kymograph, a piece of covered copper wire, two test tubes, one filled with cotton and the other with ink, constituted the apparatus for the experiment. The girl was placed on a couch and the hip was uncovered. It is interesting to note that the body was not bent when in a recumbent position. One end of the cord was attached to the kymograph, the other I held in my hand, together with the two test tubes. The kymograph was set in motion and the tubes rubbed gently over the sensitive zone. The girl was assured that the first "treatment" would relieve the pain and make it possible for her to stand erect. The suggestion produced relief in a few minutes and pressure then failed to cause pain in the sensitive area. It was explained to her that her muscles were stiff through disuse, and, therefore, she must rise from her chair at frequent intervals in order to give these muscles the needed exercise. The second "treatment" was similar to the first and the girl was told to stand every twenty minutes and raise her arms above her head. At each "treatment" a new exercise was suggested that would bring into action sets of disused muscles. Two "treatments" were given each day. Annie had been given orders not to leave her room but on the fourth day she was found walking briskly along the corridor. She was then discharged as cured. Two days later it was noticed that the girl's left arm was still stiff and it was remembered that there had been no suggestion tending to relieve that condition. Annie was then returned to the hospital where two treatments were given and exercises ordered. The contractures in the arm and hand also disappeared and in a few days the muscles lost their stiffness. The girl was then referred to the instructor in physical education for work in corrective gymnastics and she was also assigned light work. A year after this experiment, it was reported that there had been no return of the hysterical symptoms. There is every reason to believe, however, that symptoms will reappear if the girl is subjected to another shock.

The case cited above is in accord with the definition of hysteria given by Dr. Hurst, who declares it to be "a condition in which symptoms are present which have resulted from suggestion and are curable by psychotherapy." A careful study of the histories of hysterical patients shows that in practically all instances some shock or injury has caused the condition and has determined the nature of the symptoms. In this case the girl gave evidence of abnormal suggestibility which is a very important predisposing factor in hysterical symptoms. The girl was no doubt much frightened and badly bruised by the fall, but the injury was comparatively slight and recovery occurred after several weeks. The accident, however, made so great an impression on the girl's mind that the pain and contractures continued as hysterical symptoms after the disappearance of the organic cause. It is probable also that the autosuggestion was strengthened by the unconscious heterosuggestion of the physician and attendants who discussed the symptoms at the bedside of the patient. As soon as the girl was able to leave her bed, she mingled with other inmates in the institution, among them being several cases of spastic infantile hemiplegia. It was very evident that the exact form of the contractures was determined by suggestion, the result was an unconscious imitation of the hemiplegics.

Many authorities hold that one of the most important factors in hysterical conduct is a concealed, illicit motive. In the cases of hysteria arising in the camps during the war, the most frequent motives were to evade the law of conscription or to procure release from disagreeable or dangerous duty. In the case that we have just described, it is very probable that Annie missed the care and sympathy provoked by her illness while in the hospital and unconsciously resisted any suggestion that might remove the hysterical symptoms; there was no evidence, however, of deception either conscious or unconscious. A careful investigation of the history of the case showed that the patient had at all times manifested a great desire to be cured and was eager to coöperate in any treatment that might bring relief. After the treatment had relieved the pain and the contractures, the girl was so happy and so desirous of trying her restored powers that it was necessary to restrict her activity.

INSTINCTS AND THE PSYCHOANALYSTS

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THE psychoanalysts are by no means the worst offenders in the use of "instincts," so far as variety of reputed instincts is concerned. But if we consider them from the standpoint of their naïve faith in the dominance of all human activity and thought by one or a few fundamental instincts we may find much to criticize. It can scarcely be said that the psychoanalysts, with a few exceptions, are at all interested in the question of instincts as such. Some of them scarcely use the term in their writings, and few of them as yet adopt a schematized classification of instincts as a basis for the development of their theories. So far as I know, none of them has entered into the current controversy regarding the relative claims of instinct and habit to dominate character formation and human conduct. They, like most thinkers and technicians who build up a new science or art, have simply accepted the conventional ways of thinking and speaking in a popularly or professionally accepted terminology, content to leave this tangential question to others and to give their energies to the development of their own interests.

Consequently the psychoanalysts share in the popular fallacies regarding the instinctive control of human action, accepting rather uncritically, for the most part, those "instincts" or activity and thought patterns which fit their needs of the moment. Thus their "instincts" represent great centers of conation or impulse, especially those which they find most commonly perverted or diverted in the psychoses and neuroses with which they deal. This leads them into the rather common error of defining or thinking of instinct in terms of its end or function instead of in terms of the structure of the act. Their "instincts" therefore conform to the general classification of activities which they happen to make because of the needs of their problems or because of their prejudices of observation. Freud[1] appears to find only two dominant motives in life with several subsidiary motives organized in connection with them. These constitute his equipment of instincts. Tansley[2] finds three great coördinate motives and he elevates them into instinct controls. But it is evident in both cases that human activity has here been classified, not on the basis of the unity of the activity process (as must be the case where it is inherited), but from the standpoint of the importance of the acts for some social or personal ends. These ends are, in these cases, the survival of the individual and of the race and the satisfactions of the individual's ego or self.

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[1] A General Introduction to Psychoanalysis (1920), 356. Brill follows Freud's lead in this respect. Cf. Fundamental Conceptions of Psychoanalysis, 32.

[2] A. G. Tansley, The New Psychology and Its Relation to Life (1920), 177.

The psychoanalysts have approached the question of instincts, in so far as they have considered it philosophically at all, from a metaphysical rather than from a scientific standpoint. They are dealing in abstract social and personal values instead of in neural stimulus-response processes, end organs and effectors. On the other hand they are concerned, in practice, with the development of a technique or an art. They select those terms which apply most closely to the adjustment values which they wish to control, for purposes of diverting or strengthening them, and assume them to be identical with unit activity processes effecting these values; which they are not. In this respect the psychoanalysts are not essentially different from other theorists and technicians dealing with organized and directed human conduct in adaptation to the demands of a social environment. The social and the educational psychologists, the business psychologists, the specialists in advertising psychology, the theorists of public opinion and the "dopsters" of "what the public wants" generally have fallen into the same errors of procedure. They have taken social and individual value terminology, which sometimes corresponds to actual habit complexes of organized activity and which sometimes does not, and have assumed these to represent inherited unit organizations of conduct selected into the individual by phylogeny and have called them instincts.[3] They have not yet followed the lead of Thorndike[4] in splitting these acquired activity complexes up into their constituent native impulses and learned adjustments. This would necessitate their giving up their crude makeshift of all-embracing instinct-controls and would force them to turn to a more careful analysis of environmental pressures to ascertain the true sources of character formation and conflict in personality traits which lead to the development of the neuroses and psychoses which constitute their chief concern. As yet environment is a vague, relatively unanalyzed concept with them, even less penetrated logically than is the concept of instinct. They find little constructive use for it in their theory. Yet, like all other technicians and theorists concerned with the organization of individual conduct in harmony with a previously adjusted social environment or system, they cannot ignore it.

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[3] See, for example, W. McDougall, Introduction to Social Psychology; D. Starch, Educational Psychology; Hollingworth and Poffenberger, Applied Psychology; S. S. Colvin, The Learning Process; E. A. Kirkpatrick, Fundamentals of Child Study, etc.

[4] Original Nature of Man.

In this vague sense they, perhaps, make more room for environmental influences or pressures than the more systematic biological psychologists who have worked out their theory of instincts with enough detail and logical precision to become aware of the conflicts of interpretation which may arise between the theory of instinctive control and that of environmental control. Freud, in criticizing the method of the psychiatrists in dealing with neuroses and psychoses, points out that they are prone to assign every condition to heredity. He says,[5] "Instead of first seeking out more specific and immediate causes, psychiatry refers us to the very general and remote source—heredity." Freud appears to hold that both heredity and experience (environment) play parts in the production of obsessions and other psychoses. Heredity is the underlying, stable factor, probably the source of the strength of the sex impulse, which is brought into conflict with environmental restraints through experience. In this way a psychosis results. All this is equivalent to saying that the immediate and effective, the characteristic, cause of the psychosis is the environmental one. Yet Freud nowhere speaks of the environment by name as playing a significant rôle. The concept of the environment as an etiological factor apparently has not gained definition in his mind. White states pretty much the same viewpoint in explaining how the individual repeats the "history of the parent of the same sex, going through a similar course of development, developing the same illnesses, exhibiting the same weaknesses," all from the influence of suggestion. "This is all generally explained by heredity, but heredity is still only a word, an hypothesis, and while perhaps it has much truth to its credit, still this other way of looking at the facts gives the values that always come from a new point of view and serves to explain many of the more subtle nuances in a much more satisfactory way."[6] Suggestion here obviously stands for environmental pressures. Adler's theory of organ inferiority[7] must in large measure, if not primarily, be regarded as a theory of environmental influence in the production of psychoneuroses. For a reading of pathology makes it sufficiently clear that the chief source of organ inferiority is unfavorable environment. White affirms the influence of organic states upon the psychic or emotional content in referring to "the hopefulness of pulmonary tuberculosis, the hypochondriacal depression associated with diseases below the diaphragm—the anxiety that goes with aortic disease and the dulness associated with mitral deficiency and defective aëration of the blood,"[8] to mention only a portion of the correlations between organic and mental condition. Tansley implies the superior directing power of the environment when he states that whether nationalism or internationalism will win out as the form of the "herd instinct" which will dominate in the future "will largely depend no doubt, on economic factors, on the rate of economic recovery of western and central Europe, on the success of the efforts that will be made to bring about a more equal distribution of wealth . . ."[9] He also tells us that "we must not underrate the effect of ideals on the human mind, or the influence of great men—the herd-leaders —on the herd mind."[10]

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[5] Introduction to Psychoanalysis, 219; also p. 216. Compare Selected Papers on Hysteria and Other Psychoneuroses, translated by A. A. Brill, 1912, p. 193.

[6] White, W. A., Mechanisms of Character Formation, 164.

[7] Adler, The Neurotic Constitution; also various studies on organ inferiority, such as Studie über Minderwertigkeit von Organen (1907) and Myllodysplasie oder Organminderwertigkeit? (1909).

All this is a tacit recognition of the dominating influence of environment over instinct in determining types of activity or concrete adjustments on particular occasions. Yet not one of these writers, or several others who might be cited to similar effect, has anything like as completely defined or elaborated the theory of environmental influences as they have that of instinctive control. All of them make use of specific instincts or pseudo-instincts while none of them speaks of environment except by implication or in very general terms.[11] The term, as a causative and etiological factor, is still vague and unanalyzed. Tansley makes reference to instinct 479 times in the volume cited, but does not appeal specifically and distinctly to the environmental explanation as the dominant one in any situation. Freud has, in the major work here cited, 82 references to instinct and not one specifically to environment as a dominantly causative factor. White has eighteen references to instinct and almost as many nominal appeals to environment, but none that is clear cut and unequivocal in making it the major factor. The same may be said of Jung with his thirteen references to instinct in his *Psychology of the*

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[8] Op. cit., 245.

[9] Op. cit., 214.

[10] Ibid., 216. See also his discussion of the influence of environment upon the occupation of women, p. 233.

[11] White, so far as I have been able to observe, employs the term environment more frequently than any of the other leading writers on psychoanalysis.

Unconscious and the eleven in his *Analytical Psychology.* Brill makes twelve appeals to instinct in his *Fundamental Conceptions of Psychoanalysis* and much less definite, although frequent, use of environment. Yet all of these writers, and their confrères generally, repeatedly describe the etiology of cases in which it is obvious that environmental situations were the immediate and actual causes or occasions for the psychoneuroses.

Freud recognizes two fundamental instincts or classes of instincts, the sexual and the ego or self-preservative.[12] These are fundamentally opposed to each other and are basic to the serious conflicts which produce the psychoneuroses.[13] Other instincts mentioned by Freud are hunger, thirst, life-preservative, to eat, to watch, (each of these occurring once), and "to mastery" (twice). Instincts of self-preservation and ego-instincts each occur eleven times, while sex instincts are mentioned about four times as frequently as either. Apparently all the secondary instincts, except "to watch" and "to mastery" (which may also serve sex ends), are regarded as ego-instincts exclusively. Hunger and thirst are referred to as the two most elementary of the instincts of self-preservation.[14] From this summary it may be seen that Freud illustrates quite clearly our criticism of the psychoanalysts, to the effect that they seize upon large individual or social valuations of life processes which have no unit organization within the human biological organism and call them instincts. By definition instinct is inherited, and it must therefore have a unit organization of biological structure if it is a true instinct. It cannot be merely an abstraction, a valuation which is synthesized in consciousness but is lacking in a corresponding unity of biological organization within the individual.[15] If Freud were always logically consistent in his employment of this concept and classification of instincts the result would be more serious than it is. As a matter of fact he is quite uncritical psychologically. He depends upon introspection and a rather crude observation-analysis for his conclusions and principles. His method is highly empirical without being adequately critical inductively.[16] It is usually impossible to ascertain from the context whether he is thinking from an inheritance or an environmental standpoint and it is safe to say he is not consciously organizing his material from either viewpoint. His highly empirical method has led him into two major errors. First, it has resulted in the oversimplification of his data, especially on the causative or etiological side; and, second, it has led him into certain vagaries, such as overemphasis of the sex element in conflict, which unnecessarily lessen the value and acceptability of his work. It seems scarcely necessary to repeat here that there can be no general sex instinct or ego-instinct or instinct of self-preservation. These are abstract value expressions with highly variable and constantly changeable activity content; they are not concrete biological activity units, such as true instincts must be.[17]

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[12] Introduction to Psychoanalysis, 356 ff.
[13] Ibid., 358.
[14] Ibid., 356.
[15] Cf. Bernard, The Misuse of Instinct in the Social Sciences. Psy. Rev., March, 1921.
[16] Compare C. G. Jung, Analytical Psychology.

Both Adler and White accept this general division of the native tendencies or libido, as set forth by Freud in his general theoretical summary. While Adler is content with the general terminology of Freud, speaking of sex and self-preservative tendencies and interests, White modifies this terminology and speaks of the sex "libido" and the nutritional "libido," although he recognizes the ends of these two "libidos" as race-preservation and self-preservation respectively.[18] White is inclined to accept the Freudian view of the dominance of the sex motive over the nutritional or self-preservative in directing conduct, although at times he approaches closely to the general or energy concept of the "libido" as set forth by Jung, admitting of a transference of this energy to whatever activity complex is ready to make use of it.[19] Adler, on the other hand, is inclined to emphasize the self-preservative side of activity as the basis of conflict and psychoneuroses.[20] He finds that the psychoneurosis arises from some organic inferiority which induces an inferiority complex and an overdevelopment of compensatory processes and complexes. Thus an abnormal sex psychosis would arise within this general concept of organic inferiority and self-preservative compensation, not outside of it. Jung does not conceive of the psychic energy or "libido" as irrevocably attached to any one type of organic expression or adjustment need, but he does not minimize the importance of the sex and nutritional or self-preservative channels of outflow or expression in the problem of adjustment in life. He regards the function of nutrition as at least as primitive as that of sex and equally as likely to dominate the discharge of the psychic energy.

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[17] For a more adequate discussion of these points see article by Bernard, cited above.

[18] White, Mechanisms of Character Formation, 153, 196, 319.

[19] Ibid., 320.

[20] The Neurotic Constitution, 62, 90, *passim*.

Jung says that the first manifestations of libido in the suckling is in the instinct of nutrition,[21] but this in time ripens into a reproductive interest under the guidance of the sex instincts. He says, "It can be a surprise only to those to whom the history of evolution is unknown to find how few things there really are in human life which cannot be reduced in the last analysis to the instinct of procreation. It includes very nearly everything, I think, which is beloved and dear to us."[22] He makes the contrast of libido vs. hunger equivalent to the antithesis between the instinct of the propagation of the species and the instinct of self-preservation.[23] Although the two great basic instincts, according to Jung, are the two just mentioned, from a descriptive standpoint he recognizes a multiplicity of instincts, the sex instinct among them. In the *Analytical Psychology* he mentions egoistic instincts three times, altruistic instincts twice, animal instincts once, the instinct of nutrition and the herd instinct each once. In the *Psychology of the Unconscious* he refers once each to procreative instincts, desexualized instincts, nonsexual instincts, instincts of art, the instinct of the preservation of the species, the instinct of procreation, the procreative instinct, the instinct of self-preservation, the hunger instinct, the religious instinct, and twice to the sexual instinct. Out of this total of twenty instances in both volumes, six references are directly to sex or reproductive instincts and six as directly to the ego or self-preservative type. Four times there is reference to some sort of definitely social or religious instinct.

Jung also recognizes certain affluxes of libido to nonsexual instincts. He says, "Quite otherwise is the genetic standpoint. It regards the multiplicity of instincts as arising from a relative unity, the primal libido; it recognizes that definite amounts of the primal libido are split off, as it were, associated with the newly found functions and finally merged in them."[24] Jelliffe follows Jung very closly in this line of interpretation. He says, "Our formulations have taken us thus far to posit the instincts of reproduction and self-preservation as the essential and fundamental symbols underlying the process of living. From this point of view all other so-called instincts are only combinations, amplifications or partial elaborations of these. In their last analysis they are reducible to these. In many recent works on character traits, etc., a number of instincts have been described.

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[21] Analytical Psychology, 231.

[22] Psychology of the Unconscious, 145.

[23] Ibid.

[24] Ibid., 150.

Thus in McDougall's interesting *Introduction to Social Psychology* and in Shand's *Foundations of Character,* one finds that there are the instincts of fear, repulsion, pugnacity, curiosity, self-abasement, self-assertion, tenderness, reproduction, gregariousness, acquisitiveness, constructiveness, hunger, sympathy, suggestion, play and imitation. While it may be thoroughly practical to use these instinct definitions in those settings for which they are adapted, yet for the psychoanalyst they are compounds, capable of reduction to the fundamentals which have been recognized for centuries.''[25] Brill's attitude is equally definite and is closely comparable to that of Jung and Freud, especially to that of Freud. He says, ''Indeed, everything in life may be reduced to two fundamental instincts: hunger and love; they are the supreme rulers of the world.''[26] The specific instincts of which Brill makes use are mating instincts (twice) and sex instincts, animal instincts, love instinct, mating instinct, hunger instinct and feminine instinct of desire for children, each occurring once.

Jung brings into play the herd instinct as a factor in the process of socialization. He asserts that the child works out his adjustment to the world under the direction of this instinct between the years of one to five, approximately.[27] Indeed, Jung has the viewpoint of social psychology more clearly in mind than has Freud, for he declares, according to Dr. Loy that altruism is innate in man and that the altruistic instincts are more primary than the egoistic.[28] Jelliffe has developed this point regarding the social nature of control even further than Jung. He dwells upon the manner in which the various anarchistic and egoistic libidos are organized into a social pattern through sublimation and repression.[29] Of repression he says, ''Repression therefore has for its function the locking up of energy—of libido—until such time as it may be used at a higher, *i.e.,* socially permitted level.''[30] Of the process of socialization as a whole he says, ''It cannot be too strongly insisted upon that this process of repression is going on all the time below the levels of consciousness in the developing child; and that by the age of five, which age limit as has already been expressed is purely arbitrary, the work of repression, so far as these primitive ego strivings are concerned, has resulted in creating a social animal. That is, antisocial trends can be satisfied in fantasy, rather than in reality."[31]

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[25] The Technique of Psychoanalysis, 66–67.

[26] Op. cit., 32.

[27] Analytical Psychology, 160.

[28] Ibid., 263, 269.

[29] Op. cit., 42 ff.

[30] Ibid., 44.

Neither Adler nor White[32] develops a classification of instincts as a theoretical basis for the distribution of the "libido" and the origin and control of conflicts with their resultant psychoneuroses. In fact, White, in his earlier work, mentions only one instinct specifically, the "herd" instinct, to which he refers on two occasions, each time placing the term in quotation marks. In his *Outlines of Psychiatry*[33] he adds the ego, self-preservative and sexual instincts and also speaks of a self-regarding instinct. These "instincts" are, of course, quite consistent with his theory of the "libido," but he does not develop them ostensibly as a psychological or neurological support to that theory. In two of his later and more popular works[34] he makes use of a large number of instincts. These include the "instincts" of cruelty, to fight, to hate, to kill, of love, the acquisitive instinct, the pleasure-pain instinct, the instinct of gregariousness, the herd, maternal, parental, paternal, ego and self-preservative instincts, the instinct to yield at once, the instinct of domination, "the instinct of overcoming our enemy in the primitive and final way," the race-preservative and sex instincts, the instincts of sexuality, the instinct to build, of curiosity and the creative instinct. He also speaks of instinct expression, fundamental instincts, primitive and prime instincts. The parental instinct is mentioned fourteen times, the ego instinct thirteen and the sex instinct (in various forms) twenty-three times, in these two volumes. The other instincts do not in any case occur more than three times each. While the writings from which these instincts are taken are not works on psychoanalysis the distribution of emphasis on these instincts may properly be held to indicate the author's view of the actual correlation between instinct and conflict and psychosis. The ego, parental and sex instincts are the outstanding ones in White's usage. Perhaps the parental instinct would partake somewhat of the nature of both the ego and the sex instincts. It may be regarded as significant that the herd instinct does not receive serious recognition in this treatment. Adler concerns himself even less with instincts. As was remarked above, his is essentially an environmental theory, since the psychoneuroses result as compensations for inferiority complexes arising because of organic insufficiency, which may be either inherited or acquired. In *The Neurotic Constitution* he mentions congenital, criminal, sadistic, murder and gynecokratic instincts (the last one twice). Obviously these "instincts" constitute no attempt at a classification intended to serve as an explanation of psychoses and neuroses. They are apparently thrown into the text at random and relatively uncritically because they are in the writer's vocabulary and represent to him, more or less, ideas serving as tools for his thinking.

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[31] Ibid., 44–45.

[32] Reference is here made to White's more fundamental and earlier work, Mechanisms of Character Formation (1916).

[33] Eighth edition, 1921.

[34] The Mental Hygiene of Childhood and Thoughts of a Psychiatrist on the War and After (1919).

In Tansley the psychoanalytic technique, previously more of an art than a science, attempts to become systematic. This tendency towards systematization was already at work in a number of other advocates of psychoanalysis. As the psychoanalytic method began to attract more attention, criticisms and questions arose regarding its underlying principles which had to be met by further study and research. These questions were met in the characteristic way in which most arts, developed beyond their theoretical supports, meet such questions when their practitioners are forced to think them into a system. They tie them up with a philosophic system or scientific theory already in existence, which has prestige and with which the practitioners are fairly familiar. Freud's theorizing about his method had been characterized equally by brilliancy of conception, ignorance of modern psychology and a predilection for a mystical metaphysics. No one but the reverent psychoanalyst has been able to reconcile himself to the lack of psychological knowledge of Freud. The newer psychoanalysts have frequently shown a more satisfactory acquaintance with the fundamental sciences in whose fields they operate. This is particularly true of White, who apparently is widely read and has embodied some of the most valuable general concepts of psychology and logic in his book. But his work still bears the earmarks of a relatively crude empiricism and of a too great attachment to Freudian dogmas and prejudices. He lacks largely a systematic adaptation of the concepts and methods of psychoanalysis to the demonstrated facts of psychology and neurology.

This fusion or adjustment has been attempted by Tansley, but his method was not in all respects the best one. He began with the metaphysical concept of instincts instead of utilizing the new experimental data regarding reactions, coördination, the building and transference of percepts to concepts, learning and habit formation, association, reasoning and imagination. Psychoanalysis needs to build its system upon neurology and experimental psychology rather than upon metaphysical concepts such as the "libido," infantilism, regression, the struggle to regain lost omniscience, anal emotions, and the like. A theory of ready made metaphysical entities such as the prevailing classifications of instincts, can offer only a formal and deceptive aid. Doubtless the adoption of the theory of the instincts as a systematic basis for psychoanalysis represents a real logical advance from the old empirical or relatively disconnected generalizations of the Freudians, but it does not mark the achievement of a scientific content for the theory or a scientific method for the practice of psychoanalysis.

Tansley accepts the classification of the instincts of McDougall, including the seven which McDougall regards as established instincts (flight, pugnacity, repulsion, curiosity, self-assertion, self-abasement and the parental instinct) and the five which he regards as doubtful or indefinite (reproduction or sex, feeding, gregariousness, acquisition and construction).[35] In this procedure Tansley attempts a fusion of psychoanalysis with conventional psychology, especially in its more popular aspects. For the psychologies based on the theory of instincts, such as those of McDougall and his numerous followers, do not represent really serious attempts at scientific synthesis and experimental investigation but consist of ingenious systematizations and elaborations of popular beliefs about the origins and control of human conduct. It is perhaps to be expected that a subject like psychoanalysis, just emerging from crude empirical generalization and more under the influence of metaphysical concepts and analogical reasoning than the rigors of scientific method, should turn first to a pseudoscientific and metaphysical psychology based on popular beliefs rather than to a scientific psychology based on demonstrated facts. A single leap to the exactness of rigorous logic and scientific method was perhaps too much to expect.

However, Tansley has not succeeded very well in his attempted fusion of psychoanalytic theory with the conventional psychology through the channel of McDougall's classification of instincts. In holding on to the psychoanalytic tradition of dominant native urges, the repression of which brings on psychoneuroses, he himself faces a conflict—in this case between two acquired impulses. Freud and his followers offer two of these urges, so general in character and so obviously abstract and acquired valuations of adjustment processes, that they are neither instincts nor unit action patterns. On the other hand McDougall presents twelve such urges, which to be sure are open to the same objections in general. Tansley therefore makes a compromise and selects two of the urges or ''instincts'' of the Freudians (the self or ego and sex instincts) and adapts one from Jung, or perhaps from McDougall. He transforms the gregarious instinct of McDougall into the herd instinct of Jung, made popular among the metaphysicians of the mental and social sciences by Trotter,[36] and adopts it as the third in his trinity of the fundamental urges basic to human nature and activity. These three urges he calls ''the great dominant instincts'' to distinguish them from the twelve ''simple instincts'' of McDougall.[37] Around these three ''great dominant instincts'' are built up complexes as the result of the necessity of acting in an environment. ''Psychologically the complexes corresponding with these three instincts bear by far the greater part of the affect of the mind, contain the psychical causes of all the major conflicts, and determine the greater part of human conduct.[38] This same classification was assumed in a recent ''Symposium on the Relative Rôles in Psychopathology of the Ego, Herd and Sex Instincts,'' engaged in by Bernard Glueck, Sanger Brown, 2nd, C. Macfie Campbell and John T. MacCurdy.[39]

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[35] Tansley, A. G., The New Psychology and Its Relation to Life (1920), 180.

In justification of this selection of three ''great dominant instincts,'' Tansley says, ''Biologically it is clear that these things must represent the most fundamental concerns of the individual, since the first corresponds with his own existence as an individual, the second with his existence as a gregarious animal, while the third conditions his power of reproducing the race.[40] Perhaps these do constitute the three most important interests in the life of man, but if it is true it is more obvious sociologically and psychologically than biologically. That is to say, these interests are only secondarily biological facts, because they are not instinctive, but acquired psychically and socially. They are great habit complexes built upon more or less immediate or remote instinctive mechanisms as a result of the interaction of the individual with his environment, especially his psycho-social environment.[41] It is true that individuals possessing intelligence above a certain low level do build up, as a result of making the necessary adjustments to the world in which they live, a more or less active self-consciousness. They come to act, to make judgments and to value relationships and to project ends of future action with reference to this ego or self as if it were a unit. It actually does acquire an integration and definiteness which render most simple activities referred to it practically automatic. Hence these activities, judgments and valuations, valued in the light of the self and made to conform to the demands of the ego, are called instinctive when they should be regarded as for the most part merely habitual.

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[36] The Instincts of the Herd in Peace and War (1916).

[37] The New Psychology, 177.

[38] Ibid.

[39] Cf. The Journal of Abnormal Psychology and Social Psychology, XVI: 217-268 (October-November, 1921).

[40] Op. cit., 177.

[41] See Bernard, ''The Significance of the Environment as a Social Factor,'' in Publications of the American Sociological Society, 1921.

The same may be said of acts, judgments, valuations and ideals with regard to the social or herd interests, with the exception that it is more difficult for the individual to integrate the social interests into a unified conscious whole. The process of integrating one's social consciousness is much more abstract, because the foci of social interest, especially in modern complex society, are much more scattered and do not always lie in the same plane of interest. Consequently our social consciousness necessarily is more or less dominated by the interests of that institution or those institutions which lie nearest to our interests or with which we are most closely identified. Only the more philosophic or detached persons, those who can in a large measure abstract their egos from the complex of social interests and view them abstractly, are able to approximate an evenly balanced social consciousness in which the interests of all competing institutions are justly valued. Such an achievement also requires a degree of knowledge of society which most people do not possess. But neither the herd-consciousness nor the self-consciousness, however well integrated and stabilized they may be, is inherited or even inborn. They develop as poles of the same adjustment process; are complements of each other. They change as the individual changes; as he grows older, as he accumulates experience, as he changes his location and hence as he changes his relationship to facts, changes his viewpoint. They change also as the environment changes. New inventions which modify industrial technique and production, resulting changes in social relationships, the accumulation of knowledge, the achievements of science in transforming all aspects of life, inevitably modify our self and social consciousness and the logic of our activities with reference to self and society. The unity of our activity processes with reference to self and the herd is logical—social and psychic—rather than biological, except on a merely vegetative plane of existence into which constructive and consciously purposive adjustment scarcely enters.

But even where the organism reacts to its environment in a self-preservative way, and primarily on a physiological and vegetative plane, it does not respond in all cases collectively as a unit process. That is, eating, digestion, assimilation, breathing, avoiding danger, etc., when instinctively performed, have their several separate mechanisms. Even when each one of these mechanisms individually is instinctive, they do not together possess the unity and permanency of organization which would constitute them a single ego or self instinct. The only inherited unity they possess is a certain mutual responsiveness through the sympathetic nervous system, but this does not approach closely the degree of integration necessary to constitute them collectively an instinct of self. Furthermore, those who make use of the term ego or self instinct in connection with psychoanalytic theory are not so much concerned with these vegetative and primitive defense processes which come into consciousness but vaguely, if at all, as they are with the higher psychic or self-conscious processes. These we have already shown to be acquired and to be highly fluid in character, undergoing constant modification as they do.

Whatever comfort the advocates of the ego or self instinct might obtain from the facts of the organic self-protective and vegetative processes—and it is slight—no similar data can be brought forward in support of a herd instinct. Certainly we have no organic processes devoted, either severally or in unity, to the service of the herd. Our responses to the herd are mainly psychic and they are, except in the most rudimentary forms, acquired; and the integration is not permanent, and it is abstract rather than concretely physiological. Sex activity has a much more concrete and immediate basis in definite instinctive processes. But even here the organization of sex activity is dominated by external factors, such as convention, tradition and custom, and somewhat by science. This organization is acquired, not instinctive. The environmental pressures seize the sex instincts and mold them into a form of organized expression, or repress them, to suit the ends set by society itself. We cannot speak of a sex instinct in this general sense, although there are sex instincts which consist of much more localized and specific physiological processes. These may severally come into conflict with the psycho-social environment or be utilized by it; they may serve as the bases of psychoneuroses; but when they so function collectively and in an organized capacity we are dealing usually with an organization from without, dictated by the psycho-social environment, which is in its integrated form acquired rather than instinctive.

It should be clear from the argument that the three "great dominant instincts" of Tansley are not instincts at all. They are habit complexes possessing an abstract and acquired character. They are usually more in the nature of psychic and social abstract values than concrete physiological or biological structures. But this fact does not prevent these abstract value complexes, which have more of a mental and social than a physiological existence, from being functional in a world which is capable of being directed by thought, or even by tradition and convention, which are lower forms of conscious social direction than the rational. It may be that these three social psychic value complexes represent a fairly successful and appropriate selection of those which are most important to the human race. But we should not suppose that they are the only value complexes. There are as many as there are interests which can be abstracted into a fair degree of stable integration by the human mind or by social policy. The "instincts" of such classifications as those set forth by McDougall are really such value complexes as these, instead of physiological or structural activity mechanisms. That is, their unity is mental and social or abstract, rather than biological or physiological. They are acquired in the form in which we apprehend them rather than inherited. They are changeable rather than fixed. They are abstractions rather than concrete realities. To them we might add many more of the same character, as some writers do; but they would probably represent abstracted interests or evaluations less integrated or more fluid in character than the ones already cited.

Nor must it be supposed, because these "interests" or abstract value complexes which Tansley and the Freudians and the psychiatrists who follow their lead call instincts are acquired instead of inherited, that there can be no conflicts and consequent psychoneuroses arising out of them. Conflicts may occur between habits, even habits of thinking or abstractions, quite as well as between instincts or instincts and environment (which really consists of habits of thinking). When we build up abstract values rooted in our self and social consciousness and the correlated habits of action and thought, these cannot be violated, overridden or disregarded by new values arising within or coming from the outside without mental struggle and the consequent liability to neurosis and psychosis. If these valuations have the sanction of tradition and custom the conflict may be all the stronger and the abnormal psychic consequences of it the more intense. If, moreover, the valuations are supported by underlying instincts, especially if these instincts are near the surface of the acquired valuation complex, as in the case of sex attitudes, the conflict will be stronger and the psychoneuroses the more persistent and troublesome, other things being equal. This is because the value complex is so deeply rooted when its roots are instincts, or even customs and traditions, that it holds on with great persistency. In a certain degree, this fact justifies Freud's empirical generalization regarding the dominance of sex in psychoneuroses. It does not, however, warrant his maintaining that sex is the only element here concerned.[42]

It may even be doubted if a bare, unmodified instinct ever comes directly in conflict with environment or abstract value complexes, although this may happen in connection with some of the vegetative and sex instincts. Among men who have a grade of intelligence sufficient to enable them to assimilate social values and practices, these native instincts early become so conventionalized through habit modification that they cease to exist as instincts and the actual conflict arises between habit complexes. This conflict is primarily on the abstract valuational plane, and therefore is not actually between native or inherited processes at all, but between our abstract reflective processes arising out of these or overlying habit processes. The psychoanalysts themselves maintain that a conflict cannot be resolved and the psychoneurosis be dissipated without raising the conflict into the reflective centers where it can be rationalized away.[43]

The most significant conclusion to be drawn from this brief discussion of the employment of the instinct concept by the psychoanalysts seems to the writer to be that it is now time for the psychoanalysts to advance from the naïve biological and inheritance interpretation of conflict and psychoneuroses to a more sophisticated and analytical environmental analysis. It can scarcely be questioned that the psychoanalysts have brought to the attention of the psychologists and especially the psychiatrists some extremely valuable data. They have emphasized a phase of consciousness of the utmost importance individually and socially which, because of the strong predilection for an intellectualistic interpretation of social and individual action regnant in the nineteenth century, had been neglected or overlooked.[44] Whether their contribution is to rank as one of the three great discoveries of method in science, comparable, as Freud seems to think,[45] to the work of Darwin, remains yet to be determined. Nor can it be determined until the theory becomes dominantly scientific and drops its metaphysical preconceptions. We have dealt with but one of these in this paper, that of the instincts. It must be admitted that the instinct interpretation has been forced upon psychoanalytic theory largely as a short cut method of making it square with the approved biological and psychological interpretations of action and attitude, of conduct. But the psychologists and biologists are coming to see that the individually and socially significant phases of conduct, in members of the human type at least, are not inherited, but are determined by environmental pressures. The most significant of these pressures are embodied in the psycho-social environment and consist of institutions, traditions, customs, conventions, laws, beliefs, scientific data and principles.[46]

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[42] Freud does admit the theoretical possibility of there being psychoneuroses arising from other than sexual sources, but maintains that he has not met them. See Selected Papers on Hysteria and Other Psychoneuroses, 126, 141, 190–193; General Introduction to Psychoanalysis, 304, 315, 324, *passim*.

[43] White, Mechanisms of Character Formation, 274.

[44] See remarks on this subject, American Journal of Sociology, XXVII: 395–398 (1921).

While it is important to analyze the so-called instincts of the psychoanalysts and the social and educational psychologists into true inherited action patterns (where these can be isolated) as a method of arriving at the actual original nature of man, it is of even more importance to account for the large residue remaining from these so-called instincts which must be attributed to an environmental origin. The acquired element in most human action patterns is much larger than the instinctive. It is necessary to study and classify the types of environment which produce these action patterns if they are to be controlled and adjusted. Only thus can we understand adequately the genesis of conflict and the production of psychoneuroses, and only thus can we so harmonize environmental pressures, that is, organize our adjustments in society, as to diminish the production of psychoneuroses. At present, due to the chaotic character and constantly increasing complexity of our economico-social environment, conflicts and psychoneuroses are increasing. While a further analysis and better understanding of the inherited nature of man—especially if it results in getting down to the fundamental and inherited activity units—will help in solving this problem, the chief aid must come from an understanding and control of the environmental pressures which are overtaxing man's native equipment. Such an analysis of environment and its influence in producing conflicts will constitute a more scientific approach to an explanatory psychoanalytic theory.

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[45] General Introduction to Psychoanalysis, 247.

[46] See Proceedings of American Sociological Society (1921), previously cited, for an outline classification of these.

THE DEFINITION OF INTROVERSION, EXTROVERSION AND ALLIED CONCEPTS

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THE conflicting meanings with which many psychoanalytic terms are used has led me to think that a systematization of the concepts and their relations is much needed. In a recent review of the literature, I have found the well known term introversion sometimes used as though it indicated a morbid form of behavior and that only, with the implication that the corresponding or ambivalent form, extroversion, is normal and always so. Freud has used introversion as though it were abnormal[1] and Jung in his Theory of Psychoanalysis (page 49) apparently considers it abnormal and extroversion as the normal mode of living. He says of introversion that "the libido is used entirely for the psychical world *instead of being applied to the external world* (italics mine). . . . If the libido is not used entirely for the adaptation to reality, it is always more or less introverted." In contrast to this I find White saying, "It must not be concluded that extroversion or introversion . . . is always . . . undesirable or abnormal. . . . On the contrary they are desirable . . . if properly controlled and made to serve useful ends," and he continues to maintain that they are "only different aspects of life," that individuals and even civilizations "partake of the character of one rather than the other."[2] In a later paper Jung has also recognized a normal extroversion and introversion.[3] Hinkle has done likewise and presents Roosevelt and Wilson as typical examples[4] and maintains that these types are relatively fixed.[5] Lay treats extroversion as the ambivalent form of introversion.[6] White, however, calls projection the "ambivalent opposite of extroversion."[7]

Confusion is almost equally evident in the concepts of projection and introjection. White in spite of the fact that he has just described projection as the ambivalent opposite of extroversion[7] goes on to discuss introjection as the concomitant of introversion. In his words: "The introverted person . . . considers the world according to the effect it has upon him. Taking our viewpoint from the external world, this is brought about by the process of what is called introjection."[8] The relationship of regression to these mechanisms and its nature is also vague. White's statement that "introversion, at least when pathological, tends to bring about a retracing of the stages along which the psyche has come"[9] would indicate some doubt in his mind as to the place of regression, if its exists at all, in the normal form of introversion. Kovacs in his discussion of introjection and projection in art maintains that the viewer of art products, who appreciates them, introjects and that the creator of art has projected himself into his products.[10] This would imply that there is also a normal form of introjection and projection.

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[1] Freud, S., Uber die neurotischen Erkrankungstypen. Zentralblatt f. Psychoan. Bd. II, 1912, 297–302. (See abstract in Frink's Morbid Fears and Compulsions, page 243.)

[2] White, W. A., Mechanisms of Character Formation, pages 237 and 238.

[3] Jung, C. G., Contribution a l'etude des types psychologiques. Archives de psychologie, 1913, 13, p. 290 *et seq.*

[4] Hinkle, B. M., On the Arbitrary Use of the Terms "Masculine" and "Feminine." Psychoanalytic Review, 1920, 7, 15–30.

[5] Hinkle, B. M., The Moral Conflict and the Relation of the Psychological Types to the Functional Neuroses. JOURNAL OF ABNORMAL PSYCHOLOGY, 1919, 14. 173–189.

[6] Lay, Wilfrid, Man's Unconscious Conflict, p. 83.

[7] White, W. A., Mechanisms of Character Formation, p. 226.

No extensive study of human nature as it is about one or as it is analyzed and described in English literature is necessary to convince one that there are people who live more within themselves than in the busy world of activity. The philosopher was and is of necessity one who sits apart and reflectively watches the race of men go by. The enduring satisfactions of life he finds in his interpretations of life, and not in the marts of trade. So too the poet, the priest, and the pedagogue. Mr. Sinclair Lewis in his satire on the American small town has drawn an admirable picture of the life of the busy business man who reflects little, who is occupied in the objectivities of life, in trade, or in organization, or in occasional sporting excursions. Such men are bored by much reflection. When they think they think aloud. The very fact of their continuation through life as small business men in small towns is because they think so little. These are extremes to be sure, but they are normal extremes. The philosopher, the poet, the priest and the pedagogue are as normal and often as unprogressive and as impractical as the Main Street business man in Gopher Prairie is normal, hustling, and crassly practical. These illustrate the normal introvert and the normal extrovert. Jung has said that the introvert "finds the unconditioned values within himself" and the extrovert "finds the unconditioned value outside himself,'"[11] and these words apply very well to the two groups I have just described. There is in these no regression, none at least that is abnormal or fixated.

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[8] White, W. A., Mechanisms of Character Formation, pp. 232–233.

[9] White, W. A., Mechanisms of Character Formation, p. 236.

[10] Kovacs, Sandor, Introjection, Projection and (Esthetic) Sympathy. Zentralblatt f. Psychoanalyse, Vol. 2, Nos. 5 and 6. Abstract in Psychoanalytic Review, 1913–1914, 1, 233–234.

There are people also who would not fall into my poet-philosopher class, and also people whom Sinclair Lewis would not have selected as types for his Main Street business men. From my corner of life I see many who seem to combine the two traits. I see a farmer who not only manages a great ranch but actively participates in its work, and who is also a student of affairs, a philosopher whose insight into human nature is uncanny, a reader of great literature, in all things a thoughtful man. I see an eminent manufacturer, one who has shared largely in the building of a great industry, who is also a thinker, a student, and an essayist of recognized merit. I see a scholar with degrees from many universities and the author of most creditable publications who is also a very successful man of affairs. Such as these do not fall in either the extrovert or the introvert class. They are both extroverted and introverted. They find unconditioned values both without and within themselves. For them psychoanalysis seems to lack a descriptive term. I suspect because psychoanalytic terminology has been devised first to satisfy the needs of the physician seeking to interpret the abnormal and only later applied to the normal. And it should be added that these people are far from the manifestation of either introjection or projection, as the terms are generally used, and their successful maturity gives the lie to any accusation of regression to the infantile. Lacking a better term for them, I shall follow the trend of the psychoanalytic terminology and call them *ambiverted.*

To my mind these ambiverted people are by far the most normal and healthy. We have I fear been a little myopic. When considering a case of morbid introversion, we have been prone to see only the need for extroversion. When considering a case of morbid extroversion we have seen only the need for the balancing introversion, and that none too often. White refers to the manic-depressive as a more benign form of psychosis because he says "reality is the normal direction for the libido and because the direction is normal they more readily result in recovery.'"[12] He seems to be thinking here of normality as permanent extroversion, undisturbed of course by complexes. In other places he has seen beyond the immediate needs and recognized that normal efficient living involves both extroversion and introversion. He has expressed it thus: "... for the fullest expression of ... life it would seem that a balanced interplay of both tendencies were necessary."[13] Effectiveness is certainly lost by an excessive development of either trait or type of behavior. The ultra-idealist lacks effectiveness because of his little extroversion, and the ultra-realist likewise lacks effectiveness because of his little introversion. The one is the impractical dreamer; the other lacks vision. Human effectiveness in contemporary civilization requires both extroversion and introversion. There must be in it no hindering infantilities, no imperfect adaptations or adjustments, and no degeneration to domination by old forms of behavior. The normal healthy individual to-day is one who is adapted to the world in which he lives and who combines in a socially effective manner both introversion and extroversion. It remains only to add that the demands of different vocations, different environments, require combinations of different relative amounts of introversion and extroversion. Ambiversion might cover all such so long as they are effective and healthy.

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[11] Jung, C. G., Journal of Abnormal Psychology, 1914, 9, p. 397.

[12] White, W. A., Outlines of Psychiatry, p. 128.

Starting now from the normal, the ambivert, we may be better able to approach those mechanisms which involve the morbid. First concerning introjection and projection. White has convincingly pointed out in more than one place the relative nature of individuality. (See his discussion in the Mechanisms and his paper in the Psychoanalytic Review for 1917.) To be sure we are born to a world of pure experience and to all of us it was at first but that "one big, booming, buzzing confusion" of James' description, and only gradually do we discover that this is I and that is not I. And when we do achieve a healthy maturity we feel that the distinction between ourselves and the outside world is well established. But if pressed to state just where the one leaves off and the other begins, we are hard pressed indeed. The difference between the subjective and the objective is an old philosophic problem. Allen Upward in a happy moment said that it was merely the difference between the inside and the outside, but he failed to say where the inside leaves off and the outside begins. That is more difficult. Psychoanalytic literature here, too, seems to lack clear thinking. On the one hand it seems to conceive the goal of development as a complete differentiation between the individual and the outside world, and it certainly has time and again shown that failure to discriminate properly between what is objective and what is subjective is a common trait of disordered minds. Is White suffering a regression to the infantile when he admits his failure to demarcate exactly between the individual and his environment? Certainly not. It is merely the manifestation of that introversion which is a part of his ambiversion. When thinking as a philosopher he realizes the unity of all nature and the absurdity of talking about the distinction between the individual and the outside world. But when thinking as a physician he is aware of the hygienic value of an individual's living with a consciousness of a difference between himself and his environment. This consciousness may be lost in two ways. First, the individual may in his reflective moments realize the unity of all things. Second, he may as the consequence of some psychopathic condition suffer an abnormal regression with morbid introjection and projection which closely approaches the infantile confusion of the self and the environment. In both there is a loss of the consciousness of the difference between the self and the environment; but in the one the individual can voluntarily return to his differentiating consciousness, with his understanding of life improved as a consequence of his introvertive philosophic excursion, whereas in the other the individual cannot return of his own volition to a normal existence and it may be impossible for the most skilled physician to return him to it.

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[13] White, W. A., Mechanisms of Character Formation, p. 239.

There is certainly a normal introjection and projection as White, Kovacs and others have suggested. Our friends, our children, our books, our furniture, our instruments, our tools, all gradually become a part of ourselves. They become introjected. We likewise project ourselves into the products of our hands and minds to such an extent that these products seem equally a part of ourselves, or it might be better to say that they are never thrown out but always remain a part of ourselves from whence they came. We grieve at the loss of either the introjected or the projected possessions and feel that for the time being at least we have lost a part of ourselves. Surely no psychoanalyst would say that the goal of development was a separation of the self from the environment to such an extent that this type of projection and introjection should never occur. Again there is a form of combined introjection and projection common to many healthy minds of which we must not lose sight. Sometimes as I write I become so lost in the thought of my composition and its expression that the distinction between myself and my typewriter, papers, books, and desk disappears; sometimes as I teach I lose all consciousness of myself and become lost in the work of exposition. The same is apparently true of many musicians, especially in creative work. They lose, or so I am told, all consciousness of self distinction and become as it were a part of the instrument upon which they play. It responds so perfectly to their every change of mood that they and it become as one. This is but the loss of the consciousness of self so well known to all who have dipped even a little into the long drawn out controversy over the so-called self psychology. Never, however, is this a permanent loss of the distinction between the individual and the environment. The introjection and projection involved in such cases is of comparatively short duration. There is a rapid and easy return to the more common condition of living, in which the absorption periods are but a recollection. The distinction between the normal and the morbid must now become clear. It lies not in introjection or projection any more than it lies in introversion or extroversion. The morbid is so because of a lack of flexibility, and a distorted or disturbed functioning. The healthy mind may with impunity swing to either extreme of extroversion or introversion for it can with equal ease swing back again to its normal ambiverted life. The healthy mind may with impunity slip into a high degree of introjection and projection, losing almost if not quite to the point of infantility the distinction between itself and its environment, because it can with equal ease and without external assistance swing back to its normal mode of life. And the healthy mind is not the slave of its continued introjections and projections. Our loved ones whom we have taken into ourselves and our products into which we have put ourselves may all be disturbed, lost, or removed from us without any abiding disturbances to our health. It may be a wrench to give them up, especially if the necessity comes upon us suddenly. But the fact is that the normal mind has never lost sight of the fact that they are his own voluntarily permitted introjections and projections. For that reason they can be relinquished without damage to itself. The normal mind is flexible and not fixated. It is the absence of this flexibility, the inability to make a recovery voluntarily from absorption, or the inability to make an unassisted readjustment, which characterizes the morbid constitution.

The absorptive form of the loss of individuality just described is obviously regressive. But it must be equally obvious that it is a healthy and not a morbid regression. The existence of a healthy form of regression has not I think been given sufficient consideration. Perhaps it should be reinforced by a few examples. Hall long ago pointed out the peculiar table land nature of the college years of adolescence.[14] Here the youth may rise to the greatest heights of human conduct and within a short time regress with equal ease to the most banal of puerilities. Such great variations of conduct are the daily observation of all who teach the college youth. The antics of grown men at the conventions of some fraternal organizations is so like that of my neighbor's children parading around in fantastic costumes of their own creation and cutting up didos of their own invention that I think there can be no doubt of the regressive nature of this form of adult behavior. Patrick has shown[15] most convincingly the regressive or reversionary nature of our plays and games, of our dancing, and even of our enjoyment of movie comedians. A fairly well known orator has made much of a personal experience in which he actually went back to his old childhood home, to live once more as he did in infancy, to say his prayers at his mother's knee, and be tucked in once more and receive the good-night kiss. I suspect that in the devotional life of many religious adults there is a regression to a childhood attitude of mind, they come with the submissive attitude of the penitent child into the presence of their God conceived as a great father. From all these there is a normal rebound in the healthy mind back to the condition of life common to that individual. The college man swings back from his puerilities, the lodge man hurries back to his business, the sportsman returns to his duties, the orator to his platform and the religious devotee to the mundane world. These minds are regressively flexible and uninhibited, and because of that they are normal. When the morbid mind suffers a regression it cannot return so easily if at all. Fixations and conflicts incapacitate the individual and there is a "flight into disease" or a "flight into reality," both phrases meaning a regression from which there is no voluntary recovery. "Flight into disease" indicates a regression with abnormal introversion conspicuous. "Flight into reality" indicates a regression with an exaggerated or distorted extroversion. That flexibility which characterized the normal mind and made possible the unimpeded return from temporary regression has here disappeared.

I believe without question that it is possible to demonstrate, as I have indicated, perfectly normal states of mind or forms of human behavior for which we might well use the terms of extroversion, introversion, introjection, projection and regression; as well as the abnormal mental states or forms of behavior to which the names have usually been applied. If we continue to use the terms indiscriminately the present chaos will continue. Seemingly it behooves us to differentiate more carefully for the sake of our own thinking as well as that of our readers. Merely to say that these terms indicate directions of the libido not only fails to make the differentiation between the normal and the morbid; but it also fails to satisfy the experimental psychologist who is accustomed to a more thoroughgoing analysis of human behavior.

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[14] Hall, G. Stanley, Adolescence. Vol. II, p. 402.

[15] Patrick, G. T. W., Psychology of Relaxation.

A satisfactory definition of the terms, I am convinced, must be based upon our psychology of attention, the different conditions of attention especially, and to some extent upon the psychology of the emotions. I shall here speak of attention as the existence in consciousness of a focal point and a margin, and of the content of the focal point as the product of a selection from a large number of other possibilities. The selection of that which occupies the focal point is controlled by two groups of conditions, known as the objective and the subjective.[16] Objective conditions of attention are the strength or size of the stimulus, movement of the stimulus, and its duration. The attention of animals, children and some adults is most easily attracted by the loud noise, the bright light, the extensive billboard, moving objects, and that which persistently continues to stimulate. The subjective conditions are more complicated and are mostly the consequence of individual experience. If we know the timbre of a particular instrument, we can by calling it to mind manage to get our attention upon the sound of that instrument even though the whole orchestra is playing ensemble. This condition is obviously a selective process and the range of its functioning is as obviously dependent upon the nature and the number of the ideas recallable. Purpose or mental attitude is similar, but a bit more inclusive. When I am seeking the sound of a particular instrument in the orchestra my attention is conditioned by the idea in mind; but when I go to the library seeking everything therein upon psychoanalysis my attention is conditioned not by one idea but by a purpose or attitude the consequence of which is that any title in any way suggestive of psychoanalysis is selected and brought to the focal point of consciousness. We may have in our organization many such purposes or attitudes. Our education, formal and informal, constitutes also a condition of attention and in comparison with the idea in mind and the purpose or attitude is a still more inclusive condition. The scientific man may be looking through a newspaper without any scientific purpose at the time and find that his attention is attracted to a scientific article because of his education. A person with a different education would never have responded to that article at all. If we are natively endowed, as some think, with special talents, this native endowment also functions as a condition of attention. The possession of a talent predisposes for attention to things concerning that talent. And then, too, we have another subjective condition of attention which is the consequence of experience in social relations. It is called social pressure. What others may think of us often results in our attention to subjects which we would otherwise avoid. Because such an attention is accompanied by a disagreeable consciousness of effort and a vague awareness of the reason why, it is referred to as social pressure, a term which seems objective whereas it really indicates another subjective condition of attention.

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[16] See for a more complete discussion Pillsbury, W. B. Attention. Chap. III.

What one attends to conditions what one wills, and this should not be forgotten in the consideration of extroversion and introversion. And what one attends to also conditions the emotional reaction. An objective condition, strength of stimulus, attracts the child's attention to the symphony orchestra and the child experiences a very crude type of delightful emotion; while the musically trained adult is attracted by the subjective conditions called education and purpose, and his emotional response to the symphony is refined, complicated, and elaborated in comparison with the emtional response of the child. This is a commonplace in the psychology of the emotions although there is no agreement upon the classification or the terms to be used. Ribot distinguishes between the primary and the derived emotions; McDougall between the simple or primary and the complex emotions; while popular literature refers to them as the crude compared with the finer forms of emotion.

Now if normal extroversion be considered in terms of attention conditions its nature becomes more intelligible. Extroversion means a condition of mind in which attention is more often governed by the objective conditions. The extroverted condition must have strong sensory stimulation and is lost or unhappy without it. And this sensory stimulation includes a large share of kinesthetic stimulation: there is a delight in muscular activity, especially of the fundamental muscles. The extroverted condition is not of course uninfluenced by subjective conditions of attention; but the subjective conditions in extroversion have a peculiar content, a content closely related to that of the objective conditions. The ideas in mind are ideas of action, the sports in which there is actual or ideal participation and the things the person has done, would do, or would have others do. The extrovert's education has been that of physical activity rather than of reflective thought, he has always preferred to do than to reason. His purposes or mental attitudes are the consequence of such an education and so they predispose him to attend to the world of human action. His social pressure selects the same type of thing for his attention because his associates are people who are like himself extroverted, whose subjective conditions of attention are like his. The emotional life of extroversion is cruder, more simple or more primary because it is that type of emotion which is aroused by the activities which dominate the attention in extroversion. Such an individual does not respond, except perhaps with disgust, to classical literature, classical music, and the other fine arts because he has not the capacity for reacting with the refined, complex or derived types of emotion which the enjoyment of these necessitates, and also because his attention determiners have a different content and so are not aroused. In brief one can define *extroversion* as *a more or less prolonged condition in which attention is controlled by the objective conditions of attention more than by the subjective and in which the content of the subjective conditions is most closely related to the objective.*

Introversion is of course but the reverse of the above. Here the objective conditions are of minor significance. The introvert is not easily distracted, concentrates well, is called absent minded by some. He is not much interested in business, sports, or that in which physical activity is primary. His subjective conditions are dominant and the content of them is composed of abstractions, principles, interpretations, theories, meanings, and values. The introvert reads much, writes, lectures, sings, plays, paints, is constantly doing those things which use primarily the accessory musculature and higher cerebral organization. His emotional life is consequently very different. In comparison with the extrovert it is finer, more complex, or more of the derived form. The content of his attention conditions is such that there is selected for his attention a very different type of material from that selected for the extrovert and the material to which the extrovert responds makes little appeal to the introvert. Summarizing *introversion* can be defined as *a more or less prolonged condition in which attention is controlled more by the subjective than by the objective conditions and in which the content of the subjective conditions is of a more abstract nature and not so intimately related to the objective conditions.*

I have indicated in an earlier part of this paper that neither extroversion nor introversion are abnormal nor are they to be considered as mutually exclusive. One and the same individual may be now introverted and now extroverted. I have therefore made the preceding definitions comparative in degree. A person may conform more to the definition of extroversion and yet have in the content of his subjective conditions of attention that which will make him occasionally attend with comfort and even pleasure to abstract ideas or some classical music. Likewise a person may conform in his general behavior better to the definition of introversion and yet have enough of experience of active life in his conditions of attention to make him attend at times with comfort and pleasure to that which is the primary interest of the extrovert. Many there are, as I have already shown, whose life can not readily be described by either the definitions of extroversion or introversion. These people are so developed that the subjective conditions of their attention is so varied in its content as to make possible pleasure in a great variety of objects, ideas and activities. Such people may and are for a period thoroughly introverted, they are writing books or preparing lectures on some abstract subject, or are absorbed in some peculiar type of modern musical development and while so conform perfectly to my definition of introversion; at other times they are so completely absorbed in fishing, hunting, mountain climbing and tales of the same, are welcome companions to those who are more constantly extroverted, and while so conform perfectly to the definition given for extroversion. It is these I have called ambiverts. With them extroversion or introversion are but passing states of mind, whereas with the extrovert extroversion is the dominant condition and with the introvert introversion is the dominant condition. The *definition of ambiversion* grows then directly out of the two preceding and is to be stated as *a condition of development in which attention is controlled by either objective or subjective conditions of attention and in which the content of the subjective conditions is so varied as to make possible more or less prolonged periods of either extroversion or introversion.*

The definition of projection and introjection is less complicated. Psychology has long recognized the existence of the empirical self, whatever may be the temporary or the final conclusion concerning the metaphysical ego. This empirical self, as James and Hall long ago described, is the product of experience and is of varying content. The empirical self of the child does not include its back because it has seen so little of its back and knows so little about it; likewise the empirical self of the youth does not yet include the adrenals because it has not yet learned of their significant physiology. The empirical self of the adult who has specialized in physiology or psychology, or has had some experience with adrenal disturbance of some sort includes the adrenals because of the experience with them and the very personal nature of that experience. And so it goes with a steadily enlarging empirical self up the scale to somewhere about maturity and from then on a frequently changing empirical self concept. Something is accomplished of which we had thought ourselves incapable and that is added at once to our self concept; something we formerly did and have long since lost interest in slips out of our self concept. These self concepts, as religious and literary people have long been telling us, vary greatly in size or scope. The great souled, great hearted individual is so because more is included in his self concept; while the small souled selfish person has included very little in his self concept and has excluded much. The appearance in the literature of the use of projection and introjection for normal conditions indicates but a new approach to a recognition of this changing scope and content of the empirical self. And in terms of the empirical self they may be defined as follows:

> *Projection* is the temporary or permanent retention in the self concept (the empirical self) of the products of the individual's own activity.
>
> *Introjection* is the temporary or permanent inclusion in the self concept (the empirical self) of that which is not the product of the individual's own activity.

When with great effort I prepare a paper which seems to be much better than I thought I could do and it receives some praise, my feeling about that paper as the child of my brain and my labor means its continuation in my self concept. Any criticism of it is received as a criticism of myself and my self feelings are hurt. That is projection. And my attitude toward that paper may remain the same through the rest of my days. It is more likely, however, that as time passes and I become absorbed in other things I shall forget that little effort of my youth so completely that friends who discover it by chance have difficulty in convincing me that it was ever mine. Then the projection was but temporary. It is the same with introjection. It is with difficulty now that we recall the intimate friends of our high school days, those friends who were so close and intimate at the time that their joys and sorrows were ours. In childhood we had not known them; chance threw us together in youth and they were included in our self concepts, they were introjected; time passed and they were forgotten. Hence it was but a temporary introjection. Sometimes these friendships are life long, ending even in matrimony with unbroken marital felicity. Then the introjection is permanent.

Regression is a concept which deserves a special study by itself and a thorough comparison with the uses of the terms reversion, retrogression, retroaction, and atavism; but the scope of one paper does not permit so lengthy a consideration. I would suggest, however, that regression can probably best be defined in terms of the forms of individual behavior. I have already shown that there often are changes of behavior of a temporary nature which can quite well be called regressive. Examination of these will show that this regression is not a complete return in all its details to the behavior of an earlier period of life. It may be quite childlike but it is not exactly the same as the behavior of that person when he was a child because he has since been an adult and when he does for a period act like a child he inevitably carries with him some of the adult forms of behavior. It is thus a matter of dominance, and so I would tentatively define normal *regression* as *the return to predominance of earlier forms of individual behavior, with a greater or less exclusion of the later acquired forms of behavior.*

For definitions of the abnormal forms I think we cannot do better than to retain the prefixes so well known to all readers of psychiatrical literature, as indicators of morbid conditions. We must have some simple means of indicating in our terminology whether we refer to the normal or the abnormal and these have the advantage of common usage and familiarity. As I have already pointed out that the abnormal forms of the behavior under discussion consist primarily in a blocking or inhibition and in a distorted functioning, I believe that the subsequent definitions will be almost self-evident. Whatever an individual's normal degree of relative dominance by extroversive or introversive states there may be conditions of approaching or actual morbidity in which there is an exaggerated dominance by the one or the other. These are familiar as the consequence of neuromuscular exhaustion, grief and anxiety and are characterized by an inability on the part of the patient to return voluntarily to his normal balance between extroversion and introversion. Such a person does not have distorted thinking of the paranoid type but has merely lost the normal balance between extroversion and introversion; there is a disturbance of the subjective conditions of attention. Such conditions I am calling *hyper-extroversion* and *hyper-introversion* and in definition form they may be described as *chronic conditions in which a person with normally much less extroversion or introversion is unable automatically or voluntarily to return to that former condition.* The logical converse would of course lead to a consideration of hypo-extroversion and hypo-introversion; but I suspect that they are merely the converse and not to be differentiated as separate phases of mental disturbance. Where there is a hyper-extroversion there must be the accompanying hypo-introversion, and likewise where there is a hyper-introversion there must be a hypo-extroversion. In definition form it would of course be that *hypo-extroversion* and *hypo-introversion* are *chronic conditions in which a person with normally much more extroversion or introversion is unable automatically or voluntarily to return to that former condition.*

We are usually more often confronted with hyper-introverted or hyper-extroverted states which are not only marked by the inability to escape from the abnormal condition voluntarily but in which there is a conspicuously distorted or paranoid thinking. These conditions of mind I think it wise to call para-introversion and para-extroversion. Illustrations for such states are readily found in dementia precox, mania and hysteria and it is these which we usually find in the literature of extroversion and introversion. In such cases there is much more than a mere dominance by extroversion or introversion, and this is a peculiarly limited range of thought which results in the well known clinical pictures. Translated into the terms of the definitions above the diseased condition has produced an alteration of the subjective conditions of attention so that the selection of sensory and ideational material for attention is different from what it was in a normal introversion or extroversion for the given individual. This distortion of the subjective conditions of attention by disease may of course be very slight or it may be very great, it may vary from time to time or it may remain constant. The distortion means that portions only of the content of one or more of the subjective conditions of attention are able to function, or unusual combinations of portions of the contents. The definitions may then be phrased as follows:

> *Para-introversion* is a hyper-introversion in which the subjective conditions of attention functioning are abnormally limited in range, or are distorted in content, or are both.
>
> *Para-extroversion* is a hyper-extroversion in which the subjective conditions of attention functioning are abnormally limited in range, or are distorted in content, or are both.

It will be observed that each of these definitions includes its predecessor. Starting from ambiversion one can go in either of the possible directions, into extroversion or introversion. Extroversion may become exaggerated in its degree of dominance and become hyper-extroversion. Then if there is a limitation of the content of the subjective conditions, or distortion, or both, the result is a para-extroversion. A similar course could be followed from ambiversion through to para-introversion.

Where the diseased condition has the effect of expanding or limiting abnormally the scope of the self concept we have a disturbance of the processes called projection and introjection. This may occur in several ways and is indicated in the following group of definitions:

> *Hyper-projection* is an exaggeration of projection resulting in an abnormally inclusive self concept.
>
> *Hyper-introjection* is an exaggeration of introjection resulting in an abnormally inclusive self concept.
>
> *Hypo-projection* is a limitation of projection resulting in an abnormally exclusive self concept.
>
> *Hypo-introjection* is a limitation of introjection resulting in an abnormally exclusive self concept.
>
> *Para-projection* is a distorted functioning of projection resulting in a paranoid self concept.
>
> *Para-introjection* is a distorted functioning of introjection resulting in a paranoid self concept.

I suspect that frequently more than one of these disturbances of projection and introjection are to be found in any particular case but that is no reason why they should not be differentiated and given separate designations.

It now only remains to define the morbid form of regression. I have already shown in the discussion above that abnormality of regression consists in the failure to return to that predominance by the later acquired forms of behavior which is the normal condition. Consequently the condition may well be called *inhibited regression* and be defined as *a condition, from which there is no automatic or voluntary return, of chronic domination by earlier forms of individual behavior with a greater or less exclusion of the latter acquired forms of behavior.*

I believe that a careful reading of these definitions will show that they include all that has hitherto been designated when the terms under discussion have been applied to the abnormal, and that an adequate terminological distinction is made from the normal forms. The adoption of these terms would not, I am certain, be a serious burden to any one and their constant use would achieve much in the clarification of future presentations of psychoanalytic studies as well as studies of the normal personality.

A CONCEPT OF COMPENSATION AND ITS PSYCHOLOGICAL SETTING[1]

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IT is my purpose in this paper to discuss a certain manner in which conflicts between impulses or tendencies toward action become partially or temporarily resolved. The concept of compensation which I wish to develop appears in the psychoanalytic literature[2] and many of its items are taken into serious account in psychological theory from Herbart to Stout.

Compensatory behavior may be defined in a very general way as a type of activity which grows out of conflicting and mutually modifying impulses. The spinster reading over the matrimonial notes in the morning paper, the schoolboy day-dreaming of the swimming hole, the failure orating on the might-have-been, all these manifest activity in which conflicts are being partially resolved, and it takes no exceptional acuteness to reconstruct these several conflicts from the nature of their resolutions. This is the sort of thing which may usefully be subsumed under *compensatory behavior.* Within this general class there are, of course, many varieties of behavior, but before discussing the typical ways in which compensatory behavior varies, it should be profitable to examine the psychological setting of compensation.

A question arises at this point as to the nature of the participants in these conflicts which are at times resolved through compensation. My answer is that they are, in the first place, tendencies toward action and that they are, in the second place, tendencies which vary from mere undetected dispositions toward action of a particular kind to dispositions which have attained anything short of complete, unmodified expression.

That the participants in mental[3] conflicts are impulses toward action seems rather obvious on first thought. It is an obviousness, however, which is not sufficient to prevent so-called psychological discussions of conflict which identify certain of the participating elements with the nature of a world outside of the individual. Now there is a type of conflict which can be described accurately in such fashion. If a man, hurrying across a dark field, bumps against a fence, there is no error in describing this occurrence as a conflict between an impulse, possessed by the man, to reach a certain goal and the quite unpsychological qualities of a fence. But such an event is not a conflict for the psychologist, at least so long as he is acting in a merely professional capacity. Of course, a conflict of a psychological sort arises as soon as the man realizes that the conflict is delaying him or as soon as his reflex, habitual, or rational activities become influenced by the presence of the fence. This simply emphasizes the point that the items in a mental conflict are themselves necessarily mental; *i.e.,* impulses toward action.

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[1] Read in part before the American Psychological Association, December 28, 1921.

[2] See Adler, Organ Inferiority and its Psychical Compensation, and The Neurotic Constitution, both translated.

[3] I do not use this term as implying one or another level of awareness, but simply as implying something pertaining to mental life in its larger sense.

There is still another type of conflict some of whose elements are apt to be identified with a world external to the subject. Take the case of a worker striving for a livelihood. It is his persistently present tendency to win as liberal wages as possible. Certain enactments on the part of his employers define rather sharply the limits of his earning capacity. Under such circumstances there *may* arise a conflict of the strictly psychological sort which may be looked upon from a psychological point of view as a conflict between impulses; *i.e.,* as a conflict between this man's attitude toward his family, perhaps, and his recognition of his employer's regulations. But only in so far as both of these are parts of the behavior pattern of the individual, can the situation be subjected to psychological examination. There is a very prevalent inclination in the interpretation of such cases as this to identify one of the tendencies of the man with the nature of the man himself and the other with a world which imposes upon him. Such a view, even though it be motivated by considerations of convenience rather than by misunderstanding, is likely to turn attention away from the very fundamental fact that an appreciation of the mental mechanisms involved in such a conflict demands an analysis of the conflict in terms of the facilitative and inhibitory interaction of impulses within the individual.[4]

Of course, the desirability of maintaining such a point of view as I have recommended will vary with the purpose and general standpoint of the investigator. The sociologist, for instance, may find it convenient to talk of conflicts between the family and industrial groups, but such a procedure is hardly to be classed as psychological nor would it prove a substantial basis for more extended *psychological* analysis.

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[4] In my earlier essay on Compensation (The Compensatory Function of Make-believe Play, Psychol. Rev., 27, 1920, pp. 429–439), I was plainly guilty of the practice I have criticized in this paragraph.

The impulses which participate in mental conflicts may be mere undetected dispositions toward action or tendencies which have reached anything short of complete expression. It has been a more or less traditional practice to differentiate sharply between tendencies toward action which have arrived at partial expression in thought, for instance, and those of which the subject himself may be unaware. Such tendencies, however, are not completely disparate types; they are rather stages in a single continuous variable, and either may enter into mental conflicts and play determining parts in the production of an overt act of behavior. The average person would be slow to admit that his humorous remarks about a friend are the products of a conflict between a strong liking for certain of his friend's characteristics and a dislike, also strong, for other characteristics. And this hesitation would be quite as much due to an honest lack of apprehension of the causes of his wit as to the fact that he is ashamed of such motives. Here there is a conflict whose participating elements are of such a nature that they are not readily detected. But such a conflict is, for the present purpose at least, only superficially different from the sort which has long enjoyed a prominent place in the psychologist's discussion of voluntary deliberation; *i.e.*, the sort of conflict in which each participating element gets into the partial expressions of thinking. In both cases, tendencies toward action inhibit each other to some degree. The principal difference lies in the fact that in one case one or more of these impulses is not clearly apparent to the subject, while in the other case, the impulses, achieving more nearly full expression, make their nature more evident to the subject.

The next question is concerned with the various ways in which conflicts become resolved, including the case of partial resolution through compensation.

A conflict may result in the effectual inhibition of all but one of its elements. This takes place where these elements are very unequal in strength or where tentative action in one direction so modifies the stimulating situation that a former competition is broken down. The mere fact that the human organism possesses a multiplicity of receptors guarantees a perpetual state of conflict, but many of these conflicts are so promptly resolved because of the markedly uneven strength of their participants that we scarcely think of them as conflicts at all. We may have, on the other hand, a very evident conflict which ends in what for all practical purposes is a complete inhibition of all but one element. This is what takes place when a tentative action in one direction (tentative because of competition) suddenly tips the balance of stimulating factors in favor of one line of action. In such a case our emphasis may fall on the conflict aspect of the behavior or upon the completeness of the inhibition of all but one line of action, depending upon our point of view at the time.

Where the impulses involved in conflict are of considerable strength and evenness, the individual is likely to manifest emotional behavior. Under such circumstances the competition of impulses is marked by a widespread activity in many effectors, especially those of the visceral system. Of course, this activity itself expresses a considerable number of impulses, but they are not in direct response to the stimuli arousing the conflict. They grow out of the fact that the impulses which those primary stimuli arouse have inhibitory relations to each other.

Emotional states caused by conflicts do not in themselves express complete resolutions of those conflicts. As a result of emotional activity, however, the individual may by means of movement be put into a new relationship to surrounding stimuli and this new situation may favor one of the conflict's elements more than the others, or it may be so inappropriate that all of these elements lose their force, and the individual turns off, as it were, into a new line of action. Then, too, the emotional activity may supply visceral stimulations which reënforce one of the conflicting impulses or they may supply new stimuli of such importance that those arousing the conflict become, for all practical purposes, neglected.

Under certain circumstances conflict manifests itself in a fluctuating partial expression of its different elements. First one element, then another gets out into action, but these actions do not achieve completion due to the presence of competing impulses. Such conditions of alternating or rotating, tentative activities may be carried out in terms of overt bodily movements, in terms of thought, or in terms of a combination of the two. The conventional discussions of *voluntary deliberation* are concerned mainly with rotating, partial responses which are carried out in thought.

These deliberative states, like the emotional ones, are partial and tentative rather than complete resolutions of conflict. They may lead eventually to completer resolution by essentially the same mechanisms as those noted in the case of emotional activity passing on into conflict resolutions.

When two or more tendencies persistently conflict they are likely to become dissociated. The individual tendencies, that is, come to operate only when the others are partially inactive. A person with two sets of ethical standards, for example, acts now according to one set and now according to the other, and there may be no apparent conflict between the contradictory standards which his behavior represents. This kind of dissociation means simply that two tendencies which at first, or ordinarily, would operate in the same situations become so differentiated or conditioned as a result of experience that each comes to have its own adequate set of stimuli which are not adequate for the other tendency.

It quite frequently happens that a conflict results temporarily or permanently not in the effectual inhibition of all but one tendency toward action and not in the dissociation of competing tendencies, but rather in the formation of a new line of action or tentative action that expresses in modified form all of the essential elements of the conflict. I believe that the term *compensation* may well be employed to designate adjustments of this type.

In some cases this new line of action contains in it little or no evidence of the specific constituents of the conflict which gives it its driving force. There is little in an arduous interest in politics to suggest conflicts in a man's organization concerning his family life yet such an interest may easily arise out of such a conflict. There is little in scholarship to suggest a conflict between desires for athletic achievement and an awareness of physical limitations, yet such a conflict has without doubt often given an impetus to academic endeavors. Under other circumstances conflicts issue into new lines of action which show their origin quite clearly. The child plays at war as a partial resolution of a conflict between a desire to be a soldier and an apprehension of the impossibility or even undesirability of actually experiencing war. The old man lives over in mere thought reglorified days of a departed youth in compensating for a conflict between a desire for a return of those days and an apprehension that that can never be. In both of these cases the partial resolution of the conflict shows plainly its participating elements. But the difference between compensatory behavior the constituent elements of which are plainly evident and that in which the constituents are less plain is one of degree rather than of kind; and this degree is probably dependent upon the amount and direction of the interference among the impulses involved.[5]

It should be kept in mind that compensations are not modified expressions of single impulses, but rather modified expressions of combinations of incompatible impulses. The fact that the child plays at soldiering expresses not alone his belligerent desires, but also his apprehension of the impossibility of realizing them outside of play. The fact that the old man indulges in reminiscence expresses his apprehension of the irreversibility of time quite as much as it does his desire for a return of the days that are past. In other words, the process of compensation is characterized by the expression of incompatible impulses in a mutually modified form.

Freud and most of his followers I believe, fail to make this point clear. They describe the manner in which certain impulses arrive at a modified expression due to the presence of competition of some sort, but they do not seem to recognize the fact that one impulse becomes modified only to the extent that another impulse, somewhat incompatible with the first, becomes expressed. It is also true of the second impulse that its expression is modified only to the extent to which the first one is expressed. The neglect of this double or multiple aspect of the inhibitory process is apt to lead to a fallacy quite apparent in the writings of many of those who have taken their cues from Freud. This fallacy grows out of dividing human impulses into two opposed classes: (1) those which are typically tending toward free expression—sexual and egoistic impulses, for example, and (2) those which are typically active as inhibitors—impulses growing out of social experience or whatever comprehensible elements make up the Freudian *censor*. There is, of course, some truth in the intimation made by this dichotomy that certain relatively unmodified tendencies are apt to come into conflict with those which in their present form are largely products of social education. It is equally true, however, that so far as the mechanism of adjustment is concerned either group can be expressed only to the extent to which it inhibits its competitors and inhibitory only to the extent to which it can get itself expressed. Furthermore, there are conflicts between the impulses within each of these groups as well as conflicts between impulses of different groups.

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[5] The term *sublimation* is applied by Freud (See A General Introduction to Psychoanalysis [translated], pp. 8, 299–300), to those compensatory activities which give a higher and more civilized form of expression to socially dangerous impulses. This distinction is ethical or esthetic, however, rather than psychological.

So much for the principal features of mental conflict and its different forms of resolution, including compensation. We may now proceed to the varieties of compensatory behavior.

Conflicts may be resolved through compensation into overt or into purely private ideational behavior. The child who plays his game of fighting or hunting resolves his conflicts into overt acts. As this child becomes older he is likely through social experience, to develop impulses incompatible with overt games of war and the chase before his interest in those topics has shown any evidence of decline. But he will now indulge in fantasy rather than in make-believe play of a more explicit variety. Fantasy, itself, may, of course, change over into the overt behavior of playing, lying, or story telling. It is also true that practically no manifestation of overt compensation is without its imaginal accompaniments and few acts of imagination are without some appreciable effects upon overt behavior.

Perhaps the most characteristically compensatory expressions in human life are carried out in thought. Thinking and imagining are the modified and abbreviated expression of impulses toward action and it is doubtful whether thought would ever have appeared without conflict. It is possible, of course, that verbal expression, in so far as it is overt, arose to some extent independently of conflict, but I can see no explanation for the rise of implicit linguistic or nonlinguistic ideational behavior except in terms of the modification and abbreviation in conflict of fuller expression. Most of us teach that thinking is favored by complexity and instability (to a degree) of sensory-motor organization, but it is not such a common procedure to show that thinking arises out of this complexity and instability only to the extent to which these characteristics favor conflicts between impulses and the production of thought as a considerably modified manifestation of competing impulses. All thinking looked at in this light is, in origin at least, a form of compensatory conflict resolution.

The day-dream or fantasy is generally recognized as a mechanism through which interfering impulses gain modified expression. But more matter of fact trains of thought are also produced through conflict. The principal difference between day-dreaming and thinking in general lies not in any fundamental difference in origin or function, but rather in the different degrees of likelihood that they will pass over into overt behavior without considerable further modification. An acquaintance of mine a good many years ago felt almost equal desires to go into legal and literary work. He chose the law, perhaps as the more certain profession, and soon gave up all of his plans for literary productivity. At the present time, as a successful lawyer, he is in the habit of sitting down in an easy chair, after dinner, lighting a cigar, and projecting himself into a theater where his first play is being received with great enthusiasm. This sort of behavior, with its slight likelihood of getting into overt expression, we unhesitatingly call day-dreaming. Suppose, on the other hand, that this man were actually a playwright whose first play was about to be performed. And suppose that he were anticipating the scene of that performance. In this case we should hardly know whether to call his behavior fantasy or thinking. Suppose now that the man, an actual playwright, were dwelling on this anticipated performance of his play and considering just what he ought to say if given a curtain call. Here surely we have thinking. Yet, although these three trains of thought differ in regard to their likelihood of getting over into overt behavior, their fundamental psychological features are the same. In each case there is a conflict the elements of which so check each other that thought rather than action takes place. In the first situation we have a conflict between the impulses of a life devoted to law and the desire to write plays; in the second a conflict between a desire to see a first play performed and an apprehension, (implicit, of course,) that that performance is still a thing of the future; and in the third a conflict between a desire to make a few apt remarks and an apprehension of the fact that those remarks are not yet formulated. While the specific impulses involved in these several conflicts are different, and while their respective applicabilities are different, they are all impulses toward action which are modified and kept in implicit form by the simultaneous presence of other impulses. In all of these cases then we have conflicts temporarily resolved through compensation.

When conflicting impulses limit each other to expression in thought, they need not, of course, remain indefinitely in that form. Indeed the honorable law of dynamogenesis states that wherever we have thinking we have a tendency for that thinking to work over into overt behavior. This overt behavior growing out of thought may still be compensatory or it may represent the more or less complete expression of one set of rival impulses and the more or less complete inhibition of the others. That is, the mere fact that compensation in thought takes place may so change the intraorganic conditions of the individual that a conflict within him, which was at first quite even, is resolved through a pronounced facilitation or inhibition of certain of the competing elements. This is what occurs in voluntary decision.

Compensatory behavior varies also in permanency. We are constantly facing situations giving rise to conflicting impulses which gain compensatory expression. Some of these compensations are relatively temporary affairs. Due either to the fact that the stimulating situation is a temporary one not likely to recur or to the fact that compensatory expression shifts over into more definite action along some one fundamental line certain of these compensations are extremely temporary. There are others which, because of the persistence of certain aspects of the world of stimulation, to the unmodifiability of certain aspects of the individual's behavior pattern, and to the laws of habit, become relatively permanent modes of behavior. There is not a condition of life, with its own peculiar stimuli, but creates and maintains within its individuals typical and more or less permanent compensations.

The play of children, which is certainly compensatory, reflects vividly the conflicts which grow out of the conditions of child life. The child, living in intimate contact with a world of adults (often, too, with a world of fiction), develops impulses to behave in manners which he is taught by his parents and by more concrete agencies are not desirable or possible for him. The conflicts thus created remain until they are finally resolved by changes incident upon his own growth and by changes which practical experience creates in his own impulsive nature. But while he is a child, certain conflicts and certain compensatory resolutions of those conflicts remain as integral parts of his child character. Middle age, old age, great wealth, poverty, health and sickness, and social position, likewise have their typical modes of compensatory behavior.

These considerations suggest the importance of examining the behavior of growing children, of the sick, of laborers, or of any other groups, not superficially, but with an eye for the elements in the conflicts to which much of their behavior gives compensatory expression. Now it is true that many of these compensations, and certainly the impulses at the bottom of them, are diffcult to detect. A man's talking, joking, choice of books and of religion, his fantasies and his dreams in sleep all contain rich psychological materials many of which it is practically impossible to tease out of the complexities of his behavior. The psychoanalysts make much of this fact. Indeed they have so emphasized the importance of those impulses which are difficult of detection because of extreme modification in the process of compensation, that they seem in many cases to have lost sight of the desirability of looking into those forms of conduct which are fairly obvious indicators of their impulsive elements. The dreams in sleep are extremely difficult to interpret; prejudiced views are much less difficult. The psychoanalyst somehow seems forced to emphasize the more difficult task. While this is perhaps a praiseworthy hardihood, it does appear that programs of investigation aimed at the more analyzable forms of conflict resolution would tell us more about the individual or group in whom we happen to be interested and, perhaps, make easier the later analysis of more subtle forms of behavior.

While certain compensations become more or less permanently present in certain individuals living in certain surroundings, there are others which persist through generation after generation and become spread throughout the human race. Such compensations grow out of sources of conflict common to all times and all peoples. The fantasy of a future life is one of these. While it differs in its detail from time to time, from place to place, and from group to group, this fantasy seems to be an almost universal compensation for the conflict between the desire to live and have live, and the apprehension of the certainty of death. The desire for physical prowess competing with the apprehension of physical limitations is another widespread source of conflict. This conflict gets compensatory expression through watching the physical feats of the more favored, reading stories of adventure and the like.

These highly persistent types of compensation are likely to become institutionalized. Religion, philosophic systems, art, and sport are, in many of their aspects, institutionalized agencies for compensatory conflict resolution.

Compensations are easily recognized as such when they are in the major key. Fantasies and myths of heroic deeds, for instance, are naturally identified with the almost universal wish to be heroic and the universal apprehension of the difficulties of heroism. But there are also a great many compensations which are distinctly in the minor key. Many a conception of a future life is somber or even terrible, many a folk song and story is tragic in plot. The question arises as to how these things which appeal predominantly to such negative tendencies as fear can be thought of as expressions of conflicting impulses toward action. The answer, I believe, lies in the fact that the negativity of such an impulse as fear implies not a negation of action (fears tend to find expression just as positively as other impulses), but rather a negation based upon the particular quality or direction of that action. If, then, a man can find insufficient excuse for fear or sorrow in his actual world he is quite likely to create such an excuse in his religion, his art, and his sports. Even popularly we recognize this to a degree. It is not infrequent that we hear of persons who seem to get a great deal of satisfaction out of their own misfortunes; and we are all familiar with the woman who thoroughly enjoys a play which sets her to crying, and the young girl who has a *perfectly lovely* time being frightened by the speed of the roller coaster.

The concept of compensation as treated in these pages has extremely wide limits. One may expect, therefore, that it will be objected to on the grounds that, applying to every conceivable psychological act, it is not effective in distinguishing any. I should be quite ready to concede that every psychological act is to some degree compensatory, but there are two reasons why that does not destroy the usefulness of the concept of compensation. In the first place, this concept emphasizes an aspect of behavior (and that is all that is done by attention, habit and many other categories) which is usually ignored. In the second place, it does label a certain class of acts which most obviously display that aspect. Certain acts we call habits and certain others we do not, yet the distinction is merely of degree. Both classes contain habitual acts but in one class habitualness is an outstanding feature. The same is true of compensation and compensativeness.

The final point which I wish to consider is the function of compensation. Two functions are performed by this method of adjustment. Through compensation the individual is relieved, to a certain extent, of the stress and strain of conflict. Witness the fact that, when adequate compensation is lacking, there is apt to be a prolonged period of intraorganic activity of a very demanding intensity. Furthermore, compensatory behavior, like any other behavior, alters the individual's relationships to surrounding stimuli, if not as a result of explicit changes in bodily position and the like, at least as a result of a variation in his general set or attitude and his consequently altered susceptibility to different stimuli.

To summarize, compensation is a mode of behavior in which conflicting impulses of something like even strength are expressed in a mutually modified form. From a psychological point of view, the elements in conflict which result in compensatory behavior are always impulses to action. Compensation manifests itself in a variety of ways but the one which is of perhaps most fundamental importance is thinking. Compensation may exist simply as the resolution of a passing conflict or as an habitual mode of resolving some persistent conflict. Certain compensations of this latter type become institutionalized in religion, art, sport and the like. Compensation is important as a means of minimizing the stress and strain of the individual's conflicts, and also as a form of behavior, which like any other form alters the individual's relationship to the surrounding world by bringing about either immediately important physical results or changes of attitude.

AN UNUSUAL CASE OF OLFACTORY AND TACTILE SENSITIVITY[1]

By ROBERT H. GAULT
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I SHALL describe a set of tests that I have made upon Willetta Huggins, a young girl in the State School for the Blind in Janesville, Wisconsin, and will state the conclusions that the tests appear to me to justify. The claims of remarkable capacities for sensory discrimination that this girl makes have come very largely into public notice through the press.

I will first state these claims:

1. That she is totally blind and totally deaf.

2. That after smelling at fabrics, excepting such as glass and glazed earthenware, she can name their colors. This capacity she claims to apply successfully even to distinguishing amongst sweet peas and zinnias.

3. That she can distinguish the denomination of bills and the newspaper headlines by the tactile sense.

4. That she can interpret human speech: (a) When vocal vibrations are conducted through a tube at the speaker's mouth, or through a solid pole, one end of which rests upon his head, to the palm of her hand; (b) when her fingers rest upon the head, shoulders or chest as well as when they are upon the larynx of the speaker; (c) when the tip of one of her fingers rests upon the diaphragm of the receiver of her portophone. I will say here that up to the present moment I have not examined into all of these claims, but that I hope to continue my studies in the near future.

Briefly, the history of the case and her physical and mental condition are as follows:

She was born on March 25, 1905. Her father died when she was four and her mother when the girl was nine years of age. She says that her father's death was caused by tuberculosis. I have been told by the superintendent of the school in Janesville that the mother suffered from a venereal infection. Beyond this, little is known of the girl's parents. Willetta was found in the summer of 1915 by a field worker for the School for the Blind. She was then ten years of age and was living with her grandmother in Eau Claire, Wisconsin. In September of that year she entered the school at Janesville because of defective vision. Later in the course of that autumn she was found to be of defective hearing especially on the right where there is a chronic suppurative otitis media. On that side there is an aperture of 2-3 mm. in the drum membrane and the malleus is said to be missing. It is alleged that in October of that year, after acute suppurative otitis media she completely lost her hearing on the left. She then became listless and apathetic and was sent to the University Clinic at Madison for observation. There she remained during several weeks and was pronounced "Incurably deaf and of a subnormal mentality of the moron type." (Quoted.)

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[1] Read before the American Psychological Association, Section for Clinical Psychology, at its annual meeting in Cambridge, December 29, 1922.

The eye balls, a well-known oculist in Chicago tells me, are not so pathological but that she might see. Her pathological condition must lie back of the chiasm.

Early in 1920 a teacher of the blind in Eau Claire, Wisconsin, told the girl the story of Helen Keller and of Miss Keller's ability to interpret spoken language when holding her fingers upon the speaker's larynx. Willetta, it is said, was greatly encouraged. Her listlessness and apathy were soon conditions of the past, and she began to take a normal interest in her surroundings. She is mentally alert and very well developed physically, and is of generally healthy appearance. Naturally, she is somewhat retarded from the viewpoint of advancement in school (at present I believe she is pursuing first year high school studies), but, without having made a systematic mental test, I am convinced that it is extreme to classify her with the morons.

She is extremely temperamental. I mean by this that she is easily made resentful, easily depressed and made to cry. Oftentimes if the operator, even by chance, appears to intimate that he doubts her or that the test is a matter of very great seriousness, she will fall into an emotional state that is at once prejudicial to a conclusive test. The method, to be successful, must appeal to her as a novel form of play, or it must afford her an opportunity to show off before strangers.

To pass on to my own tests. I first occupied myself, while I was in Janesville during two weeks in July 1922, with a study of her alleged capacity to name the colors of Holmgren yarns after having smelled them.

To eliminate the chance that she may see, it is obvious that the dark room would first occur to me as a means of control. But if one is seriously looking for evidence of olfactory sensitivity such a room must have a free circulation of fresh air. This condition could not be satisfactorily met in the school. Furthermore, there is the probability, based upon knowledge of earlier experience, that being placed in a dark room for purposes of testing would arouse an unfavorable emotional reaction.

I therefore, at the outset, resorted to the bandage as an expedient, in the expectation that, as the work should proceed, opportunities would arise to alter or to add to the control and at the same time to maintain the subject in good humor. The bandage consisted in a pair of automobile goggles of the cup-shaped variety, lined with black paper, stuffed with cotton wool and bound around the head with stiff elastic. The cotton wool projected over the temples and brows and below almost to the point of her nose. It was impossible either for me or for one of my graduate students, who accompanied me as assistant, while wearing the bandage to peek underneath it or to distinguish through it a lighted window from a dark wall. While she was bandaged in this manner I threw upon the table before her a pile of 90 yarns without selection and asked her to pick out all that were blue or "on the order of blue." It turned out that there were 22 in the heap that could be properly so described. Four of them she failed to find. She succeeded exactly in selecting the 13 that were red and a tint of red. There were nineteen that were yellow: tints, shades and mixtures. These she selected correctly. From time to time she described one as lighter or darker than another. She placed an orange yarn with the yellow group remarking as she did so that she could have included it with the red group.

I then found a pretext for adding adhesive plaster to the bandage already described. A strip two inches wide was used for this purpose. Its lower edge was firmly attached to the skin below the cotton wool. It effectively covered the wool that projected below the goggles and extended right and left over the nose to within a half inch of each ear. She continued to name the colors as before.

There was the possibility that she gained some clues by contact with the skin. To control this factor I undertook holding the yarns myself close to her nose but without touching her skin. She was unsuccessful. She said "the smell goes out into the air."

I then provided myself with a glass tube with an inside diameter of ⅜ of an inch, 5 inches long and bent 1½ inches from one end to form a right angle. While Willetta held the short arm of the tube in one nostril—the left—I held twenty-five colored yarns one after another with a pair of tweezers tightly against the outer end approximately 4½ inches before her face. The outer end of the tube was elevated so that it was very nearly on a level with the middle of her nose. The box from which the yarns were taken was situated on a level with the outer end of the tube and directly in front of the subject. She named correctly the color of each of 30 yarns presented in this manner.

In the course of this test I was surprised to find that whenever the tube was in the right nostril the girl was unsuccessful in naming the colors of the yarns. The test began at two o'clock on an afternoon. On inquiry I discovered that her nose had bled immediately after luncheon. Later she was able to make the distinctions whether she was using the left or the right nostril.

In this connection I should say that the subject never reported the color of pieces of glass whether the experimenter or the subject held them at the end of the glass tube or directly against her nose.

At this point the subject caught a severe cold and suffered from prolonged congestion and inflammation of the nasal passages. Further tests in which the subject claimed to rely upon smell were interrupted necessarily. She claimed to be unable to make distinctions of color in the usual manner, or in any other manner whatever while she was in this condition and our attempts resulted in complete failure.

When colored lights are reflected upon any portion of her face or into her nostrils there is no reaction.

Before going on to other aspects of the case I will suggest an interpretation of the phenomena I have described to this point.

This interpretation must be made, I am convinced, on the theory that the energy of light reflected from the colored yarns was wholly excluded from her retinae. My confidence in this is established by the following facts: (1) neither my assistant, Mr. Roy Smyres, nor I could detect light through the bandage even without the adhesive plaster addition; (2) twenty students in Northwestern University, with such a bandage over their eyes, were unable to distinguish a brightly lighted window from a dark wall; (3) a third well known fact must be mentioned: ability to distinguish faint white light is quite consistent with inability to distinguish colored lights.

Naturally one dwells upon the hypothesis that the dyes used in these yarns have odors that are distinguishable by one who has an extraordinarily keen sense of smell.

To test this hypothesis I examined, in the course of the summer, a total of 32 persons, ten of whom were blind, to discover whether there were any amongst them who could report with a high degree of accuracy upon the olfactory likeness or difference of tufts of Holmgren yarns. Fifty pairs of yarns were chosen for the test.

The members of the pairs respectively were different and alike in an equal number of instances. In each case one subject was blindfolded. He smelled at one and then the other member of the pair and reported whether they appeared to be alike or different. No one has been found who can name the colors in such a test. Willetta's special teacher made correct reports in 45 of the 50 cases. This teacher, a young woman of high attainment, a graduate of the University of Chicago, came to the institution on the day of my own arrival. Her attitude toward the case was, from beginning to end, that of an inquiring rather than of a credulous mind. My assistant was successful in 18 out of 24 cases, and my notes show that two blind pupils in the school were successful in 30 out of 50 cases. The superintendent succeeded in 44 cases. I should add that the yarns I used in all these tests were from a new set, the property of the psychological laboratory in Northwestern University.

Now it is probable that our deaf-blind subject need not have been more sensitive in respect of smell than her teacher at the onset of her blindness. If she were just as sensitive as her teacher and no more she might learn in the sewing room to distinguish colors by the odors of the dyes—and do it even without the *conscious* guidance of the instructor. Attempts are being made at the Janesville School to teach other pupils to make these distinctions by smell. It is too early to speak of results. It appears, however, in one or two individual cases that the experiment may not be wholly unpromising.

The possibility that our subject is, and always has been, synesthetic as to odors and colors (assuming as high a degree of sensitivity as that of her teacher) is worth consideration. It must be recalled that the girl was not blind before she was ten years old. Whether she is synesthetic in this respect I am unable to determine. If in her childhood, before the age of ten, she invariably connected odors and colors, and the same odor with the same color, she does not recall it—and she could hardly be expected to do so even if it were the fact; for as long as she could see she might easily overlook, or forget, at any rate, the synesthetic phenomenon if, indeed, it existed at all.

I must admit that the great number of dye substances in use in industry puts a heavy burden upon the applicability of the theory that she distinguishes the colors of fabrics on the basis of differences of odor amongst dyes. My own work with her in this relation has been limited practically to tests in which the fabrics employed as stimuli were colored with aniline dyes. But I express again my conviction that no light reflected from the fabrics reached her retinae. In view of all the circumstances I can conceive of no other hypothesis than the one I have mentioned.

The possibility will occur to some that telepathic communication from the experimenter accounts for the girl's discriminations in these tests. This assumed factor, I urge, has been controlled in the unsuccessful attempts to have her discriminate colored glass and colored lights. As a further test upon this point, I shall attempt to have her discriminate colored yarns in circumstances in which the experimenter himself cannot know, at the moment, what stimulus he is presenting.

In the next place I shall speak briefly of Willetta's claim that she interprets speech through vibrations conducted to the palm of her hand or to her finger tips. On the afternoon and evening of December 16 I had opportunity to put this matter to the test. Because of the novelty of the test in her experience we easily gained her hearty coöperation. Mr. George Crane, one of our graduate students, assisted me. I myself took the transmitter of Willetta's portophone into a closet and closed the door upon the wire. I covered myself and the transmitter tightly with a heavy comforter. Willetta, outside the door, had her ears stopped with cork, and a heavy double woolen blanket was bound around her head and neck. Outside the blanket she held the receiver, with a finger against the diaphragm. I recited seven short sentences and five questions into the transmitter. After each sentence or question was completed her blanket was raised and she repeated to the assistant what had been said with but a few unimportant variations. When, subsequently the assistant was bound up as Willetta had been, he could not hear my voice. I believe we have here a satisfactory demonstration that she interprets the human voice through vibrations against her fingers.

Evidence to corroborate this conclusion Mr. Crane is finding in the course of experiments in the psychological laboratory at Northwestern. He has succeeded in teaching a normal subject to distinguish twenty-three words by means of the vibrations of his own voice conducted through a speaking tube, thirteen feet long, and projecting through two walls and an intervening room, against the palm of the subject's hand. The hand is inclosed in a sound-proof box and the subject's ears are stopped by soft putty and covered by a soft bandage. By the time this statement is printed he will, if the present rate is maintained (and the rapidity of learning is increasing) be able to distinguish many more than twenty-three words. I should add that it matters not, for accuracy of discrimination, whether the words are isolated or combined to form sentences. Furthermore, it is utterly impossible for the subject or for any other person who has been introduced as subject for purposes of control to distinguish the experimenter's voice by the ordinary means.

The experiment, I believe, may lead to important results from the viewpoint of teachers of the deaf.

NOTE.—Since the above was written the subject has made additional progress. He is able to understand 35 words in isolation and any number of sentences that may be made of them. He distinguishes low, middle and high notes.

Through the generosity of the Dictograph Products Corporation and the Portophone Company, both of New York City, we are able to begin experiments with their acousticon-like instruments. The subject holds the ear-piece in his hand, and he has shown, in two sittings, indication that he will be able to learn to interpret speech by means of tactile impressions conveyed to the palm from the vibrating diaphragm.

TIME FACTORS IN THE SUBSTITUTION TEST WITH PSYCHOTIC CASES

By F. L. WELLS, Ph.D., and J. P. CURRIE, A.M.
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THE "Substitution" test was organized by Professor Woodworth, and originally appears in the Monograph "Association Tests" (Psychol. Monog. No. 57, 1911), pp. 53–55. It consists of a letter size sheet on which are printed in irregular order, twenty each of squares, circles, triangles, crosses, stars. At the top is a "key" which reproduces one each of these figures with a number inside of it. The star contains 1, the circle 2, the square 3, the cross 4, the triangle 5. In the hundred figures below, the subject writes the numbers indicated by the key. Woodworth found an average rate for educated adults to be at the rate of 14.5 seconds per line, and a total of 79.6 seconds for the first half, or five lines. Pintner and Paterson gave an age level standardization based on school pupils. In their work only the first half of the blank was used. This would fix the lowest age level at which the test is practical at six years, where the median time is 290 seconds. Normal average adult would be about 96 seconds. Hollingworth made considerable use of the test with psychoneurotic soldiers, using as a score the number of correct checkings in two minutes. His average scores represent half the blank done in about 100 seconds, in conformity with the other work. In the present figures, errors are neglected, so that the scores seem to compare more favorably with the above norms than is actually the case. In most studies the results have been given in terms of a "global" figure for a single portion of the blank. In his original presentation, Woodworth noted the opportunity for studying fluctuations in the work curve, by timing the successive lines. If the experiment proceeded ideally the first line would be the longest, and progressive decrease in the remaining lines would measure the amount of learning. But even normally, the first line may be as short as any other. In the next few lines, partial learning is offset by the longer time it takes to look at the key. Later on, better learning is offset by fatigue, or fluctuations of attention. In the eleven (educated) subjects observed by Woodworth, the average time of the initial line is 14.1″. There is an increase to the third line averaging 16.4, and then a progressive decrease to the last line averaging 12.1″.

The median of the nine lines other than the first is 13.8″, 91% of the first line.

For some months the timing of individual lines has been a consistent practice in the use of the Substitution test at this laboratory. One hundred and five records were tabulated for the purpose of this study. Omitting cases where no definite clinical classification was available, this number is reduced to 92. Classifying these according to diagnosis of official record, there appear 12 groups of four or more individuals, a miscellaneous group of 16, and a not psychotic group of six persons. No one group, except the miscellaneous, contains more than eight persons. The general average time per line, for the different groups, approximates 31 seconds. This may be compared with corresponding figures of 14.5 for Woodworth's educated adults, Pintner and Paterson's 19.2 for normal adults generally, Hollingworth's 20 for his psychoneurotic soldiers. In the present group, this figure is 22 for six nonpsychotic, and 18 for five psychoneurotics, in agreement with the above. The only other figure approximating the normal one of 18 is given by six "constitutional psychopathic inferiors." In the remaining clinical groups this function shows a marked lengthening over the normal which may be tabulated as follows:

		Dem. Praecox								
Gen. Par.	Alc. Psy.	Par.	Simp.	Hebe.	Par. Con.	F. M.	Traum. Con.	M. D. D.	Other M.D.Ps.	Misc.
31	31	32	38	32	34	34	35	27	35	39

These averages have considerably higher mean variation than those which fall within normal limits, indicating that they do not represent very distinct group tendencies. The mean variations in time per line of all groups considered are as follows:

		Dem. Praecox											
G. P.	Alc.	Par.	Sim.	Hebe.	Par. Con.	C. P. I.	F. M.	Tr. Con.	M. D. D.	Other M. D. D.	Psychoneu.	Misc.	Nonpsy.
7.5	11.3	14.9	7.5	7.3	14.5	3.3	7.1	16.2	7.6	8.7	2.8	15.4	3.8

As there is no dominant tendency for the time per line to either increase or decrease throughout the record, one may consider the mean variation of each individual from his own time per line. In the quicker groups, this is nearly the same as the variations from one's fellows; in the slower groups it is less. The fluctuation is, however, distinctly greater in the slower groups than in the faster. The figures are as follows:

		Dem. Praecox											
G. P.	Alc.	Par.	Sim.	Hebe.	Par. Con.	C. P. I.	F. M.	Tr. Con.	M. D. D.	Other M. D.	Psychoneu.	Misc.	Nonpsy.
5.9	3.7	7.2	10.1	5.7	9.3	3.2	5.5	7.6	4.5	7.0	2.7	7.9	3.4

In each record there was calculated the per cent which each of the nine following lines was of the first line. To represent the central tendency of these percentages, their median was considered the most suitable. In Woodworth's superior cases this was 91, representing the general gain in rate over the first line. No other previous data on this point are available. In the present data, this figure is generally above 100, indicating a tendency not to maintain the rate of the first line. It is, of course, relatively hard for a rapid worker to better the rate of the first line. The three quickest groups all show scores over 100 in this function. The extreme score, indicating the least gain, is shown by the "not psychotic" group. On the other hand it is evident that much of the gain observed is an expression of lower rate of the initial line. The alcoholics show the most gain, their general rate is at the average of the present groups. Traumatic conditions illustrate low rates with distinct loss. General paralysis indicates average rate with considerable loss. The data are as follows:

		Dem. Praecox											
G. P.	Alc.	Par.	Sim.	Hebe.	Par. Con.	C. P. I.	F. M.	Tr. Con.	M. D. D.	Other M. D.	Psychoneu.	Misc.	Nonpsy.
122	78	91	105	88	88	104	98	112	96	103	102	98	123

The significance of the immediately above figures is limited by the great variation of their constituents. This averages 22. The substitution test is one subject to idiosyncrasies of approach, independently of the clinical classification into which the individual falls. As a measure of general mental alertness, it has an established place among performance tests. These remarks are meant to invite attention to work-curve, or "volitional" features of the test, which are obscured when it is administered from the ordinary psychometric standpoint.

PSYCHOLOGY IN SOCIAL CASE WORK

BY ADA L. GOULD

AMONG the new steps in social work as presented by a recent state conference is the application of mental hygiene and the skill of the psychologist and psychiatrist to mental problems in case work. This does not mean the appeal to the psychiatrist only when there is a raving maniac or a mental defective in hand; as a new step it refers to the use of the psychologists in disseminating those twists of mind, acquired aches and pains, imagined inadequacies in the face of difficult situations, eccentric habits detrimental to development into which any one of us in time of stress may plunge.

It is generally assumed that the social worker has been trained to detect the need of medical attention in the client, or to undertake as annual routine his physical examination. The new step, as prophesied by Dr. George Pratt of the Massachusetts Society of Mental Hygiene, will be the requirement that a social worker be trained to recognize when the client needs psychological attention, and especially in the case of children to order a mental examination as a routine as desirable and indispensable as the examination of eyes, ears and teeth. More and more social workers are juggling the terms of psychology and particularly of psychiatry. They refer glibly to neuroses, constitutional psychopaths, compensation as if they were so many charm words to relieve their consciences of the burden of treatment, without recognizing that such cases like those of appendicitis or whooping-cough should be brought under adequate special care immediately. For it is possible that an immediate grapple in children with bad temper habits, and chronic headache or nausea attributable to no physical cause may check the growth of manic dispositions or hypochondriacal tendencies and relieve the sanitariums and insane hospitals of those who have always had their own way, or have always ''enjoyed ill health.''

Much of the skill in case work depends on the intelligence of the social worker in knowing when and how to use the specialist. This does not postulate a thorough knowledge on his part of the valves of the heart or the convolutions of the brain. Much more, however, skill in case work depends on the intelligence of the social worker in knowing when and how to use the client himself. And it is just this sort of skill that a knowledge of psychology as a basis for treatment can refine.

In her recent book, "What is Social Case Work," Miss Mary Richmond accepts the interdependence of social case work and psychology: "Social case work consists of those processes which develop personality through adjustments consciously effected, individual by individual between men and their social environment." Processes, personality, conscious adjustments are terms plucked bodily from modern psychology. More and more, she says in defining case work, "its theories, its aims, its best intensive practice seem to have been converging of late years towards one central idea; namely, towards the development of personality." It is incumbent on psychology to furnish scientific data, and methods for applying its theory to the concrete problems of social work. Those methods are not like an herb infusion, a panacea for all ills guaranteed to break bad habits; nor are they like the misconception of the old lady who defined mental hygiene as "prayer and rubbing." They are rather a systematic analysis. Some common schema which shall ferret out the variable qualities of intelligence, personality and character of the individual is perhaps the first step. From such analysis might loom the potentialities which would furnish the nucleus to determine Miss Richmond's "level of participation" of any client. In the two case summaries which follow such a method of analysis devised in the Harvard Psychological Laboratory was used as a basis for treatment.

An intelligent adolescent girl, famed as a "chatter-box" had lost several foster homes in which an agency had placed her because she did not know how to control her volubility in a group of elders; her intelligence, traits of personality and character were tabulated—intelligence as shown in tests, information and school work was high; by an average of the opinions of her associates she was unanimously credited with this excessive expansion. Although self-centered in conversation she liked to be with people, met them easily, and fitted into their plans. She was highly suggestible. The recommendation was made that a home with high ideals of education and character combined with much "life" (coming and going of visitors, etc.) would perhaps better fit her social, ambitious nature. The social agency found her a home in a minister's family where old and young were book-lovers, and where there was "life" in abundance. For a number of years the girl proved indispensable in entertaining missionary circles, and all of the numerous stray visitors to a parsonage. Although occasionally she had to be checked for monopolizing conversation at dinner, among the young people of the parish she was expected to talk and take the initiative. And she never failed. This is a clean-cut situation of loosing into its proper pool through a recognized purposive method the fish out of water. More often we dump the fresh water fish into a salt water pool, or even into a dried up river bed because it is the most convenient receptacle.

Frequently it is the individual and not the situation which must be remedied. A child addicted to temper fits that sent her into terrible rages could succeed in no foster home. No particular remark or situation seemed to set off her fury. In these explosions she terrified everyone with her threats, and disregard for crockery, furniture or anything that would crash. She was rapidly learning the tyrannical power that such outbursts afforded her, and their periodicity was increasing. She was likewise becoming ensnarled in a vicious circle where she could no longer control these disturbances. A moron, she was scarcely introspective or ingenuous enough to probe the roots of her trouble and to devise a method of control. But she hated her bad temper. A definite experiment in emotional discipline was launched; gentle music on one occasion broke the spell; at another time when a very tactless person had increased her rage by banter, a long fatiguing walk at a terrific speed ending in the vast quietness of an art museum where her mind was diverted to some Egyptian sarcophagi and mummies made her amenable; again a gradual turning of her thoughts not too obviously on the poverty of her younger sisters whom she loved dearly changed her mood. By a series of such practical minor experiments, the general rule of control in her case of diverting her mind from her grievance in a soothing atmosphere was recognized, and in order to make the discipline more effective with her consent she was placed in a church school where under the effects of daily religious services and daily quiet, she became almost poised and much more tractable when she returned to her foster home.

These cases cited are just two actual instances where a knowledge of the psychology of personality was purposively used as a foundation of the method for treatment. In the first case the potentialities of the superior girl were recognized and an environment where she might lunge ahead provided; in the second instance the liabilities of an inferior girl were recognized and not too rigid but subtle help given to break a bad habit which she was inadequate to understand or to control. In every individual there is possible some focus or keynote which shall steady him from gyrating uselessly or harmfully in his community. But what we have to build on or manipulate should be determined by some uniform scientific procedure such as a psychological analysis by questionnaire and simple standardized experiments rather than by haphazard impressionistic judgment which half of the time because of mannerisms, and the worker's own biases and suggestibility, is false.

One of the most serious responsibilities of the social worker is that of arbiter in many a tangled situation. Unlike the lawyer, she must listen tactfully to all sides of a story and sympathize or correct. In formulating for herself a statement of the truth of the situation, she must recognize the bias of the harbingers of woe or scandal, their prejudices, the axes which they have to grind, not suspiciously as if they were so many liars palavering for her confusion, but sanely, penetrating the fallibilities of human thought. Psychology helps one to recognize that belief in a falsehood may be easily acquired, and clung to with fervor. Most plausible stories have surrounded false accusations. Many slightly subnormal girls find this world most unexciting and unromantic; they belong in the Middle Ages with knights and crusades, and build for themselves castles with dungeons where they verily believe themselves prisoners. They are suggestible; they believe their illusion. When their ethical discrimination is not keen or their ethical training negligible, these girls may frequently make false accusations of assault, or slander and are so convincing and plausible that if inexperienced or without some knowledge of the reasoning of such minds the worker may be deceived. One such girl, having come to a social agency because of accusations of assault which no physical finding bore out, while in the care of the agency acquired hospital mania. She simulated all the symptoms of appendicitis on one occasion; a certain number of visits to the hospital, and some very bitter medicine with no particular efficacy cured her. At another time she was accompanying daily over an icy hill a lame schoolgirl. Within two weeks time she had acquired a limp which required a visit to an orthopedic clinic, and a series of corrective exercises to convince her that she was all right. Such tendencies of thought and reasoning can be checked in their first indication if the worker is well enough trained in the principles of psychology to recognize the symptoms.

Miss Richmond challenges psychology by her statement that "as practical guides in social work, the social psychologists have thus far been of very little help." They are dealing with "mass reactions." "One bases his thesis upon a single instinct, another attempts to classify the instincts, others study the psychology of crowds." Surely the analysis of the individual in relation to his group, an estimate of his potentialities and liabilities by tested laboratory methods is one point at which psychology may furnish practical assistance by supplying a focus and by increasing the number of applicable methods in social case work. In the second place by offering concrete instruction in the mechanisms of thought and reasoning, and by preparation for the detection of rationalization, suggestibility, complexes, phobias and illusions in thought and perception psychology may furnish a wider margin of accuracy and insight to the social worker.

RATIONALIZATION AND ITS SOCIAL SIGNIFICANCE

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RATIONALIZATION AND REASONING

WHEN the social psychologist begins to study the place of reason and belief in human behavior, he is liable to pause before the phenomenon known as rationalization, in the new sense of that word. According to the older senses, we think of ''the act or process of rationalizing'' as treatment from a rational point of view; or as translation of the impulsive, the esthetic, or the mystical, into the language of reason, for the sake of test by reason. But for the Freudian, rationalization means only the appearance of reasonableness, put on in order to deceive ourselves and society. Without the mask of rationalization, society would understand our true motives, and might do something to us. For rationalization consists in giving an acceptable ''reason'' for an action, when the action really springs from an unacceptable cause. The cause, that is to say, is too primitive and uncivilized to be admitted to society; yet, the action being desired by the individual and permitted by his fellows, merely offering it under an acceptable ''reason'' masks the cause and allows it to pass. Thus rationalization is a form of hypocrisy, necessary to keep the peace between our aboriginal natures and the artificial make-up of society.

Since Freud called explicit attention to the occurrence of rationalization, and gave it this good name, it has been recognized in so many departments of thought that it becomes liable to confusion with reasoning. Perhaps, indeed, we have been deluding ourselves about human nature; perhaps any reasoning which is over and above rationalization, is but a figment of scholastic imagination, and without any existence in real life. We know that humanity has a tremendous wish to regard itself as reasonable; and where there is a wish, there may arise a compensatory delusion. Hence man's belief that he can and does give real *Reasons,* perhaps, is itself an intellectual compensation, to defend against the painful admission that we are compelled by universal forces. However, a moment's reflection shows that the same should be said of the reasons we could give for holding such a theory. This puts us in a dialectical circle which leads nowhere; and from which we can escape only by assuming that there are some reasonings available, by which we can test the others. Somewhere within the maze of reasons, must be the better ones, which are fitted to stand at the top. Among these are to be found the ones which, like Freud's, seek to evaluate the place of reason in human life.

Properly, a true reason for any action is a motivating cause of the action. In the case of purposive behavior, the special predisposition of the organism, the "determining tendency,"[1] would be a motivating cause, as would be also each factor which determined the mode of release of the tendency. Where an action is performed without conscious purpose, say from habit merely, and is justified later upon request, the justification should include factors whose presence conditioned the unconscious performance of the action. Thus legality conditions many nonreflective acts, hence it may be given as one of the true reasons for their performance.

A complete exposition of the true reasons for any action, obviously enough, would amount to a complete inventory of the determining antecedents of the action. But human motives being as complex as they are, such inventories are impracticable if not impossible. It is but natural that society should have formed the habit of accepting only the "high points" of the causal description, where actions are questioned at all.

And it is this habit of which the rationalizer takes advantage. While taking care to choose his professed "reasons" only from the field of—to his mind—*possible* causes, the rationalizer may suppress a number of important causes altogether. Or, knowing that a partial list of his springs of action is all that will be required, he may shift the emphasis, in an effort to make unimportant motives seem important, hiding the forces which really move him. The rationalizer may even offer reasons which are not at all connected with the action in his case, but which might have been connected with it, and which therefore serve to shield him from the light of knowledge. It is not that the rationalizer always intends to deceive society in this way. Frequently he is so unconscious of the deception as to be "self-deluded." (This seeming paradox will be examined in a moment.) But the fact is that he takes advantage of society's lack of discrimination, a lack which is occasioned partly by inability and partly by unwillingness to examine motives closely. Society itself includes individuals who have motives which must sometimes be rationalized.

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[1] Cf. Prof. R. B. Perry's "Behavioristic View of Purpose," The Jour. of Philos., Vol. XVIII (1921), pp. 85–105.

RATIONALIZATION MECHANISTICALLY VIEWED [2]

How is rationalization to be explained? Must it be given an animistic description, as suggested by the more metaphysical aspects of Freudianism, or can we find a place for it in the world of descriptive science?

I believe that the mechanistic hypothesis is the way to truth. Certainly science is ever discovering deterministic causes for what had previously been ascribed to free spirits. Yet we have always with us the lapses into mysticism, so inevitable where there is incomplete analysis. However, experience suggests that the thoroughly mechanistic interpretation of behavior is the one which must often be corrected in detail, but which has no need to fear that its most precious assumptions are liable to be made unnecessary by science. And a mechanistic account of behavior, it would seem, should offer easier support both for psychotherapy and for an understanding of the function of reason and belief in social behavior.

Now it appears that rationalizing is a form of "compartment mind" believing. The rationalizer's advertised "reasons" are, for him, intense beliefs; while other ideas are "repressed," *i.e.*, inhibited or dissociated, as the case may be. Inhibition and (localized) dissociation are alike in one important respect, namely, that in both, a large portion of the personality gains ascendancy, in such manner as to shut off conscious action of all other response systems of the organism. The important difference between inhibition and dissociation lies in the fact that inhibition is normal, and necessary to life in a complex environment; while dissociation is pathological, and results from the organism's inability to maintain integration before stress. And when a course of action, or an idea, is only inhibited, it may be "switched on" again at will, for it is still in connection with the cerebral centers. Until such occasion for functioning arises, an inhibited idea remains "successfully suppressed," as the Freudians say. A dissociated idea, on the other hand, has been torn loose from the centers of consciousness; so that as long as the ascendant consciousness persists, the dissociated idea can function only through lapses of speech, automatic writing, and other discrete channels.[3] Hence a dissociated system cannot be called upon at will, until reattached to the waking consciousness, when integration is regained.

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[2] I think this treatment is in essential agreement with the position maintained throughout Professor Holt's "Freudian Wish."

[3] As described in Dr. Morton Prince's work, "The Unconscious."

In rationalization, such integration is lacking. There are lines of division, which separate the motivating causes from the professed "reasons." In some cases of rationalization the lines of division are reinforced by hyperactivity on the part of the ruling system. This occurs particularly where the thwarted responses still tend to function, as they do when dissociated. The danger of rivalry is communicated to the conscious portion in some way, perhaps through the excitement of receptors which are unable to touch off adequate responses, and which therefore stir up the fear reaction, with its stimulating flow of adrenin. But however it is brought about, the fact remains that an excess of activity in the ascendant portion is frequently observable. This portion, which is called the "higher self," the "will," the "conscience," and the like, according to circumstances, is that which "is deceived," remaining blind to what goes on in the repressed portion of the "self."

Having attempted an explanation of self-conflict in this way, the paradoxical language of everyday psychology, which it is hardly worth attempting to avoid in all cases, should not cause confusion. Let us turn now to a little survey of the principal varieties of rationalization.

TYPES OF RATIONALIZATION

There is first a form of behavior which in mechanism is the same as rationalization, but which concerns chiefly the individual himself. Jones suggests that it might well be called "evasion."[4] It consists in the exclusion of painful systems of ideas from consciousness, or in the establishment of pleasant systems, so that the organism's hedonic tone is improved. The most familiar examples of such behavior are the various forms of compensatory belief, from the ones which come easily during moments of phantasy or play, to those established more through effort, as in "faith." For the only essential difference between play and faith, is that in play, there is that type of easy dissociation which allows everything to fade out of consciousness except the suggested system; while in faith, the rival responses are not entirely quieted, so they call forth an excess of conscious activity to preserve the pleasant system.

But the hedonic values of compensatory beliefs of play and faith are not limited to protection from the pains of an external environment. Such beliefs also provide the individual with a way of escape from his own defects. If he has pain, he may, like Kant, think only of Cicero; or if he is homely, or has some humiliating weakness, he may dwell upon other qualities he possesses or imagines himself to possess. Clearly most weaknesses or uglinesses are such because of comparison with the qualities of others. From the basis of what the individual thinks he *ought* to be, come the defense mechanisms and overdevelopments to which so much attention has been called by Adler. And rationalization, as "compartment mind" belief, is really a defensive overdevelopment of ideas.

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[4] Ernest Jones, "Papers on Psychoanalysis," chapter on Rationalization in Everyday Life.

Thus the coward finds "insuperable difficulties" in the way of the dangerous task he ought to perform. Frink analyzes the attitudes of two of his cases towards former President Wilson's peace policy. One was a coward, who satisfied his sense of inferiority by defending the administration. The other was a quarrelsome fellow who had hoped, by holding out against his family, to obtain certain things from them. He discovered, however, that through his unwillingness to arbitrate, he had not only failed to get what he wanted, but had lost much more besides. His chagrin was great; yet he would not allow himself to think that his method had been mistaken. Naturally, for him the peace policy was an irritant, and he attacked it bitterly.[5]

In other cases where an emotion rises without conscious intent, and seems to require justification, a single feature of the object is represented as cause for the emotion. This feature, however, when removed, tends to be replaced by another. Thus the neurotic wife dislikes her husband's mustache; but when he has cut it off, she dislikes something else about him.

Of the various tendencies which may be distinguished in the mature organism—fear, tender emotion, sex, acquisitiveness, and the rest—each, pressing for satisfaction, seeks to inspire its own justification. In fact, anything that comes into consciousness from oneself, tends to call out some kind of reinforcement. Thus Pascal, when suffering protracted pain, found comfort in the belief that since the crucifixion of Christ, "suffering has become a link of resemblance, a link of union, between man and God. Moreover, it is the only link between them in the life that now is." Similarly, habits of all kinds find ready support from rationalization. The drunkard takes his "last" not so much because he likes it, as because he needs it to steady his nerve for obtaining the work which will help him keep straight. The staunch defender of the established order may have high principles, or he may have objective interests at stake; but it is quite possible for his defense to spring from custom, or from complexes established in youth.

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[5] H. W. Frink, "Morbid Fears and Compulsions," pp. 179–180.

This habit of providing reasons for what springs from subconscious forces, is beautifully demonstrated in cases of hypnotic suggestion. When the hypnotized subject is told that he will be unable to recall what went on during the period of hypnosis, but that ten minutes after waking he will open a certain window, he will carry out the order exactly. Then when asked why he opened the window, he is quite surprised at the question, but gives a reason, according to his intelligence. The lowest type of response will be that he "just wanted to open it." From this intuitive variety, there will be all degrees of reasonableness, up to philosophical justification of the act. Through the pressure of life in a social environment, the rationalization habit may become so fixed that it becomes a necessity before action is possible. This is particularly evident in cases of highly developed "conscience," where through training in accountability to parents, to sovereign, or to God, the individual has become scrupulous in his habit of testing every act by reference to standards of truth or goodness. The passion for consistency, built up in this way, reveals itself with especial clearness when through repression of some real or imagined fault, the individual becomes distressingly consistent in all the other departments of his life.

Evidently intelligence is not always a protection against rationalization. Indeed, intelligence is what makes rationalization possible. It is the unintelligent person who is most liable to suppose that his every impulse springs from reason.[6] Intelligence is required to recognize the unsatisfactoriness of reasons, and to supply the means of supplementing them. It is also, fortunately, the means of correcting them; though too often it fails to find its use in this respect. But it follows that great thinkers have not been free from the charge that their philosophies were rationalizations. "Our systems, perhaps," said Amiel, "are nothing more than an unconscious apology for our faults—a gigantic scaffolding whose object is to hide from us our favorite sin." Certainly many systems of thought serve to protect our conscious wishes and our submerged complexes; while still others defend us from doubting these systems.

Many rationalizations amount not so much to protections *for* our impulses, as to defenses *against* them. In a mild form, this is the behavior of the unsuccessful business man, who secures a position as teacher of business methods. Another example is the weakling who, like Nietzsche, defies physical power. But this form of rationalization stands out more clearly where there are motives which seem to be incompatible with "conscience." Thus the sadist who is unable to direct his tendency into some channel of social value, may develop a violent defense belief in the cruelty of vivisection. The young woman who falls in love against her will, is liable to assert that she thoroughly hates her object, and perhaps all men who have some of the same characteristics. There have been cases of women converted to Christian Science, because of defense hatred for medical men. In its extreme form, apparently, this type of defense becomes paranoia, where the patient is convinced that the object of his subconscious interest is devising all sorts of persecution for him. Conversely, secret hatred is often covered up by belief in faithful devotion. The overcareful daughter, or the too fond parent or guardian, are in many cases making defense rationalizations of their own motives. Again, mercenary interests may be covered up by professions of love. One young man, whose fiancée's parents suddenly lost their money, announced his intention to marry her at once, "to provide for her." Analysis showed that this was really a defense against popular suspicion that his real devotion was to her money—which it was.[7]

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[6] Cf. Dr. Frink, "Morbid Fears and Compulsions," p. 175.

Phenomena of the types described above are equally observable in international conflicts. The anger of a people is justified by appeals to the atrocities and unholy ambitions of the enemy, while all selfish motives are banished from consideration. Where selfish motives are pressing, as in times of overpopulation, or where racial pride of conquest has been built up to a high point, the search for reasons may discover anything, from strategic necessity to a great need for civilization on the part of the conquered.

ETHICAL STATUS OF RATIONALIZATION

Throughout all the various types of rationalization, a common factor appears. In all, the individual has made some effort to present a unified front to his environment. Where there is a permissible but unpopular impulse, all reserves of the socially approved motives are developed to the highest possible point, so that the common may be surrounded by the more worthy. Where the impulse is socially impossible, the "better side" of the individual's nature exerts itself to the utmost, so that he may still find recognition from his fellows. The constant motive underlying rationalization is thus a desire for that unity which spells success in meeting the problems of life; the will to survive.

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[7] Frink, "Morbid Fears and Compulsions," p. 178.

And to this end, a part of the insistence on the better "reasons" springs from a more or less conscious appreciation of the power of autosuggestion. That this attitude is somewhat justified, is a commonplace of experience. Our voluntary faiths may become our customary beliefs, as phantasies of play sometimes become beliefs. It would seem that nature has made it possible for us to suppress doubts for the moment, and act according to reasons that we desire, with the result that success reinforces the reasons for next time, while driving doubts and unworthy motives into oblivion. This must be through inhibition of as many unsuitable responses as possible, and dissociation of the rest; supplemented by a tendency to reintegrate, in retrospect, for the sake of future adjustments of the same kind. In a social environment there is added incentive to this process, because our advertised reasons become precedents, to which our fellows expect us to remain fairly loyal.

But there is a limit to this type of autosuggestion. Complexes too far removed from consciousness can only with the greatest difficulty be worn down by countersuggestion, if they can be reached by it at all. And society puts a real hindrance upon this type of effort, through its failure to trust the process. A great show of reasons is itself often cause for suspicion. Society prefers individuals whose behavior is more transparent; and where the motives are at odds with one another, men would rather see the individual set out to look his motives squarely in the face, to readjust his behavior and his beliefs, not from the outside, but from within, at the roots. This social preference is often shown too late, or only in a blind way, it is true; but every national crisis, for example, provides opportunities for men to detect new species of rationalization.

Evidently there are urges both individual and social which would drive rationalization into something better. Fortunately, with the knowledge now at hand, an individual blessed with sufficient intelligence to be a good rationalizer, has in the same intelligence a means of analyzing his motives (by the aid of hypnosis if necessary), so as to direct them into more useful channels, according to a wiser program of life. When this is done, his list of reasons, when required, amounts to a wholesome self-analysis.

And the propositions he offers as description of his motives, are not "compartment mind" beliefs; they are real reasons, which stand in his conscious life as integrated beliefs. Of course, even if there were complete self-analysis among the people generally, suspicion that "reasons" are still only shams might arise from the fact that different persons would give different reasons for the same behavior. This, however, would be inevitable, considering the complexity of human interests.[8]

With the general acceptance of a fairer view of human nature, and with the growth of applied psychology, we may hope for methods which will reduce the quantity of rationalization. This should result in gain, both for individual sanity and for the social welfare.

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[8] For illustration from the war, see Prof. R. B. Perry's volume, "The Present Conflict in Ideals," pp. 12–13, 17–20.

REVIEWS

JUDGING HUMAN CHARACTER. By L. H. Hollingworth, Professor of Psychology, Barnard College, Columbia University. New York. D. Appleton & Co., 1922. Pp. 268. Price $2.00.

The author, in a very interesting manner, makes a brief survey of the traditional methods of judging character and shows the inaccuracy of diagnoses made on the basis of such criteria as the observation of a tender parent, the candidate's statement of his own qualifications, the impressionistic theory of a prejudiced interviewer, analysis of the photograph, and the letter of recommendation.

Experimental tests have shown the vast differences in judgments of individuals and in different judgments of the same individual, even on a single trait; hence the inaccuracy of random judgments of individuals, both by others and by self.

"Character terms, such as those in daily life, represent effects produced rather than psychological functions or elements of personality,"—and so more accurate pictures of the mental pattern itself are needed for a judgment of the individual. These are furnished by objective measurement, by tests, of such aspects as general competence or intelligence, mental maturity, special aptitudes, numerous trade skills, educational status and accomplishment, various types of vocational fitness, range of information in various fields, and, so far as possible, moral and social qualities and interests, emotional dispositions, the attitudes and volitional and instinctive characteristcs.

A book, useful to the layman, employer and vocational director (guide) alike, written in a style free enough from technicality to be easily understood by all. As an introduction to industrial and vocational pychology it should be valuable. F. M. DULA.

THE NERVOUS HOUSEWIFE. By Abraham Myerson, M.D., Assistant Professor of Neurology, Tufts College Medical School. Boston. Little, Brown, and Company, 1920. Pp. 267. Price $2.25 net.

"'Men don't understand,' cries she. 'Women are unreasonable,' says he."

In this book Doctor Myerson maintains that "the neurosis of the housewife has a large part of its origin in the increasing desires of women." Woman's education has tended to keep up her emotionality and her vanity, and to establish, through stories that end before the heroine develops a housewife's neurosis, a false romanticism which is no preparation for life. Woman's outside interests, too, have made her increasingly sensitive to the disagreeable phases of housework. For it is still true that while "in its aims and purposes housekeeping is the highest of professions, in its methods and technique it ranks among the lowest of occupations." Some of the difficulties in that life have even been increased. New and time-taking refinements have been introduced; because of late marriage, and an attitude of fear, divided interests, etc., on the part of the mother, the modern child is born with more difficulty, and in its upbringing demands more attention; and meanwhile, all the brains of commerce are competing to increase the housewife's economic desires.

Such demands find the woman working in that isolation which predisposes to unhealthful mental attitudes. Neurasthenia, psychasthenia, or hysteria, sometimes as a weapon for herself, is too often the result. The hyperesthetic, overconscientious, or overemotional individuals are naturally liable to such failure of adjustment; but the strongest constitution may give way before difficulties that persist in the sex relation, in conflict of wills, or in the personality of the husband. Treatment for such troubles must secure physical health, proper working conditions, self-understanding, and a sound philosophy of everyday life. All these points are illustrated by interesting case histories.

It ought not to be supposed that Doctor Meyerson thinks that women should go back to old-fashioned domesticity. On the contrary, he believes that while "the secondary, most noisy changes are perhaps evil, the main primary change is good"; and progress could not be stopped anyway. We must expect to see real equality of women, regular voluntary restriction of child-bearing, scientific reduction of housework, and more participation by women in movements for the betterment of the race. And in this connection we must remember that the home, while it has indispensable virtues, is no more divine than any other human institution. Its capacity for breeding prejudice, and nonsocial and reactionary attitudes of mind, as well as its economic inefficiency, deserve careful criticism. In the changes which are upon us, we must cling to the virtues and correct the vices of the home.

This end cannot be attained, however, without more sensible education. "How much harm the romantic tales have done to marriage and the sober, satisfying everyday life, no one can estimate, no one can overestimate. Romanticism which extols sex as the prime and only thing in life, prudery which closes its eyes to it and makes sour faces, need special places in Dante's Inferno." Furthermore, child training must establish habits of tolerance, courtesy, and emotional control. And finally, marriage must be earlier;—though Doctor Myerson admits that he does not see how this change can be brought about in view of the present social attitude.

Fair in spirit, and rich in real observation and illustration, the volume runs "thick," and in a most entertaining fashion. It seems well adapted as a medium of practical insight for all who may have to do with problems of domestic psychology; including physicians, social workers, those who are or will be housewives or husbands of housewives, and those who are interested in the education of such persons. W. S. Taylor.

Die Lehre von den Geschlechtsverirrungen. By J. Sadger. Leipzig and Vienna. Deuticke, 1921. Pp. 458.

This book is quite the most elaborate psychological study of anomalies in sex life that has appeared. Previous work like that of Krafft-Ebing and

Ellis has afforded a rich casuistic material, but hardly such painstaking analysis of mental phenomena. The author has for some time been in the front rank of contributors to psychoanalysis. His papers on various types of extragenital eroticism are classical. The style of the present volume is limpid and its attitude temperate. The book grew out of lectures to physicians. Apology is offered for the limited case material presented, which can take up so much room in psychoanaytic presentations. It seems at any rate sufficient to bring out the author's meanings.

An opening division of the volume deals with the sex life of the child, also with the Œdipus and ''castration'' complexes. The anomalies themselves are discussed under the classifications of psychic impotence, masturbation, homosexuality, the ''sadomasochistic complex,'' fetishism and exhibitionism.

Among his special points are noted a tendency in some women to detach themselves from the husband and center on children, in others to remain centered on the husband and avoid or neglect children. The former reaction has its organic basis in generalized erogenous zones, the latter in an eroticism more centralized in the genital areas. (With Sadger, and in other psychoanalytic writing, erotic is used in a sense more commonly attaching to hedonic.) The love of women for men has remained largely on the narcissistic level. She loves man not for his own worth, but because he loves her. For this reason, women show much less overvaluation of the love-object than do men. Genuinely projected love appears only with the child, and has even here a narcissistic basis, ''the child being a part of herself.''

The author distinguishes three grades of psychic impotence. In the first, the man is not suited to marriage, but is competent in organic relations at other levels. In the second grade, these relations can be sustained with prostitutes only. In the third grade no organic relationships are possible though there may be much phantastic activity. These are dependent on different types of mother-fixation. One function of masturbation is a diminution of sex drive that is advantageous in modern cultural restrictions. ''Its good is in its harm.'' There are two types of masturbation. One type concerns the heavily sexed individual, whose autoerotism is *faute de mieux.* To such the process does little damage. In other personalities, of unstable sexual constitution, it becomes incidentally a factor that precipitates damage.

In the center of the author's concept of homosexuality is the infantile notion—sometimes reported in adult dreams—that woman's genitals are similar to those of men. Disillusionment may be intolerable, the female love-object requiring to be endowed with a phallus. The homosexual object becomes a kind of *Muttterersatz.* He quotes Freud, ''The homosexuals are persons in whom the erogenic import of their own genitals has been a hindrance to dispensing with the like in their love-object. In the development from autoerotic to object love they have remained fixated at a stage closer to autoerotism.'' The always sought and never found maternal phallus originates in the maternal nipple. This is the psychogenesis of *fellatio,* the phallus replacing the nipple. This is also the explanation of how the child sometimes manages, αὐτοδίδακτος, to find the way to normal coitus.

As appears in the terminology, the reactions of sadism and masochism are not contrasted so much as by most students. Sadger refers them in large part to forms of heightened extragenital erotism. Affective reversal, feelings of pleasantness under conditions of normal unpleasantness, appears. The main additional factors are heightened “*Bemächtigungs und Unterwerfungstriebe,* marked positive and negative castration complexes and certain regressions to the infantile. Perhaps the greatest weight attaches to direct or symbolic castration.

Some history of the fetishism concept is given, including Binet's idea of major fetishism (fetish separated from human love-object) and minor fetishism (fetish an essential part of human love-object). The very advanced opinion is offered that, as words are in common metaphor the “clothing” of ideas, so a garment-fetishism may be sublimated into a concern for verbal forms as contrasted with ideational content. Fetishism appears, even more than exhibitionism, to be a masculine type of anomaly. “The specific fetish, in whatever disguise or symbolization it may be sought, represents the genital organs of the mother or mother-representative.” That these may be phallic symbols is understood in what has gone before. Many myths and delusions have the motive of endowing woman with a phallus of her own, in various symbolic forms. Among well recognized phallic symbols is the fish. Hence, the mermaids.

The fondness of children for going barefooted and bareheaded is a refined exhibitionism, derived from the value of these members as phallic symbols. A predilection among army officers for the sword, drawing it ostentatiously from the sheath, has a similar meaning. When women even in the coldest weather leave open doors behind them, for example in streetcars, they make known thereby, “even if unconsciously,” that similar accessibility obtains on more intimate horizons. Exhibitionism may be sublimated to a mental level. Social forwardness, fondness for being photographed, artistic and literary self-expressions, especially the writing of memoirs, receive a motivation from this source.

The above is by no means a summary of this long and minute study, which is impracticable, but sets forth some of the author's more striking points. The subjective element in the work will hardly escape critical notice. It would be regrettable to have psychoanalysis itself permanently fixated on an autistic level. However, the difficulties of assimilating psychoanalysis are mainly confined to its use of symbolism. In this connection, there are portions of the present case material where suggestion is prominent. Failure to accept all of psychoanalytic interpretation need not blind one to observational material from this source. The special concerns of psychoanalysis have drawn attention to facts useful in various formulations. To the student of psychosexuality, this book may fairly rank as “indispensable,” though one disagree with many of the views the author expresses. In one place he says, *apropos* of fragmentary case presentation, "Whoever concerns himself with the finished painting, need not examine the blotches of color on the palette." Sadger has painted the thing as he sees it clearly and in great detail. As a token of artificiality in his formulations the metaphor seems at times not less well chosen.

F. L. WELLS.

VICE AND HEALTH. By John Clarence Funk, M.A., LL.B., Director Bureau of Protective Measures, Pennsylvania State Department of Health; and Scientific Assistant, U. S. Public Health Service. Philadelphia. J. B. Lippincott, 1921. Pp. 174. Price $1.50.

Mr. Funk sets forth the nature and causes of prostitution, and the varied means of its continued existence under modern conditions. He also gives statistics which indicate the tremendous cost of the evil in wealth and health. He holds that prostitution does not protect the virtuous; that "regulation" does not regulate; and that what has always been, does not necessarily have to continue to be. A description of the Government's fight on vice prepares the way for an obviously competent discussion of the legal, administrative, medical, and sociological organization required to secure treatment of existing venereal cases, to rehabilitate the amenable women, and to effect prevention of vice. Among the methods of prevention the author does not fail to include segregation of defectives, attention to the predelinquent phase of the work, healthy education, and behind all, good government.

The volume does not enter into the psychology of sex, other than to show that a great deal of prostitution is kept alive by shear love of excitement on the part of the patrons; and that much of the attraction of the business is generated through alcohol and bad music and bad dancing, all of which can afford to be replaced by more wholesome stimuli. The aim of the book distinctly is to treat vice as something which should and can be weeded out of the social order. The result is an up to date manual of information, which should be useful in developing a sense of civic responsibility for a practical program. W. S. TAYLOR.

PSYCHOANALYSIS OF THE "REFORMER"—A FURTHER CONTRIBUTION TO THE SEXUAL THEORY. By Joel Rinaldo. With a Preface by Andre Tridon. New York. Lee Publishing Company, 1921. Pp. 137.

Mr. Rinaldo believes that the "reformer" is a neurotic, "an hysteriac and that his social activities are the result of his abnormal condition." It is the author's contention that the "diagnosis of the typical reformer shows marked symptoms of Anesthesia, Amnesia, Motor Disturbances, Abulia, Phobia, Fixt-Idea, and Ego-Mania." Few readers will care to disagree with Mr. Rinaldo when he concludes "that such a coördination of symptoms can argue nothing but a chronic abnormal psychic condition." This condition he defines as "Meddling Hysteria."

The main portion of the book deals with the "prohibition reformer," the victim of the "Volstead Complex." Prohibition is a sexual perversion which expresses itself in the form of sadistic gratification. The factors which are supposed to be responsible for the various inhibitions in the "Volstead Complex" are very numerous. "A few such as impotence, constipulation, infantile and adelescent experience, physical undesirability, inverted characteristics and morbid fears are always involved in a greater or less degree, making the complex difficult to analyze. The reformers' psychic state is a complex of complexes as it were."

The author puts particular stress upon the dangers of prohibition to the sexually normal and healthy man, "for drinking is one of the vital and vivid traditions and attributes of humanity's sex life, and he will find in alcohol a stimulus to all the things that make life worth while, not least among them a heightened enjoyment of sex." The result of this and other reforms will be "that the sexes will converge to a common type, half-man, half-woman, morbid, nervous, self-centered, inhibited a full and healthy sex life, incapable of the efforts and inspiration of progress, and in the final state sterile and impotent. This is race suicide, and to this reformism is leading us."

Mr. Rinaldo does not merely propose the problem; he offers, in addition, a solution. "A body of trained and competent specialists" in psychoanalysis should be added to the Public Health Service, both national and local. These experts are to analyze the appeals of all reforms that are brought before the public and bring to light the hidden sexual motive of the reformers. This might, in some cases, result in the cure of the individual reformer; but the main motive is to enable the people in general "to realize to what perversions they were being seduced." And thus it is that reformism is to be reformed.

The author informs us that it "was only after a study of the works of Dr. Sigmund Freud that I was able to appreciate the sex significance of reformism and the peculiar psychology of the reformer." No matter how much we may disagree with the author on the general thesis of his little book, we most heartily concur with him when he says: "In conclusion, just a word of caution. Psychoanalysis has suffered much at the hands of some of Freud's enthusiastic but alas superficial followers. It is not a plaything for amateurs or the dilettante, but a serious science requiring much study and patience and an elaborate technique not easily mastered by the layman."

D. A. HARTMAN.

WHAT IS SOCIAL CASE WORK? AN INTRODUCTORY DESCRIPTION. By Mary E. Richmond. New York. Russell Sage Foundation, 1922.

Social case work has long since branched off from philanthropy with aims and methods of its own, and with that departure has grown the effort to define case work more precisely, and to set the profession on the standardized footing of law, medicine, or the ministry. Everyone is called upon to perform acts of friendliness and altruistic relief, but in doing so he does not automatically become a social worker, any more than in administering a spoonful of tonic, or in comforting those in distress with spiritual advice he emerges a doctor or a minister. In Miss Richmond's recent book *What is Social Case Work?* we read a simple, clean-cut description of the social worker's field of activity and clientele.

Broadly speaking the social worker treats social problems either in reference to situation or in reference to the client. Problems of situation are those where economic assistance, or additional resources of social or physical nature are given; problems of the client are those where the conduct, mentality, or social maladjustments of the individual must be recognized as the unbalancing factor. Miss Richmond chooses six general types of problem to record and stury (p. 27), two of situation, and four of person or client. A few years ago the reverse proportion would very likely have held; but more and more the trend of case work has been to focus on the persons in the situation. "Its theories, its aims, its best intensive practice all seem to have been converging of late years toward one central idea; namely towards the development of personality." How this recognition of the change of focus in social problems necessitates accurate psychological approach and method has been suggested in an article "Psychology in Social Case Work" in this issue.

But as Miss Richmond indicates although psychology enters social case work, it does not usurp its field, any more than does legal or medical service or vocational guidance. "Social case work will be found to be coterminous with none of them . . . The distinctive approach of the social case worker, in fact, is back to the individual by way of the social environment." Or more formally stated:

"Social case work consists of those processes which develop personality through adjustments consciously effected, individual by individual, between men and their social environment" (p. 98). The social worker draws the circumference of the client's environment and directs intensively his adjustments to it, seeking guidance in particular snags from specialists in other professions.

In any given case Miss Richmond selects four requisites for a social worker: (a) insight into individuality and personal characteristics; (b) insight into the resources, dangers and influence of the social environment; (c) direct action of mind on mind; (d) indirect action through the social environment. The combination of trained skill in all of these divisions distinguishes the professional social worker from the untrained. But skill in each trait rests as much on a knowledge of social psychology, as on sociology or social ethics. Insight into personal characteristics, into social environment, into the action of mind on mind, and of the social environment on mind are just as definite problems of social psychology as the more theoretical questions of instincts and their classification, or of mass reactions which Miss Richmond assembles as the chief interests to date of the social psychologist (p. 142).

"What a man does for himself counts far more towards his permanent wellbeing than the things that are done for him" (p. 162) is the accepted ethical postulate of purposive social work. In this connection Miss Richmond uses a very poignant phrase—the case worker should discover in the client "the level of participation." Psychology might readily bring resources to social case work for this search: tests of intelligence, of special ability, of ethical discrimination, of traits of personality could all be pressed into service for discovering more accurately just what the client can do best for himself. The psychologist very likely has neither the knack nor the desire to carry into practical service his theories and devices of adjustment but as a new fountainhead for an increase of the possible number of sound adjustments in a situation he is indispensable to social work. In the ''development of personality through adjustments consciously effected individual by individual between men and their social environment'' social psychology increases the supply of sound methods, and social work adopts them, applies them, and nurtures them intensively in the given maladjustment. Together sound psychology and social service should seek out the individual differences, maladjustments, new adjustments, and this ''level of possible participation.''

ADA L. GOULD.

SOCIAL CHANGE. By William Fielding Ogburn. New York. B. W. Huebsch, 1922. Pp. viii+365. Price $2.00.

An idea with the enormous potential power of radium is in this book flashed before the reader's eye. The spectacle of a jelly-like substance known as man whose physiological and psychological characteristics have changed but little since the Ice Age 50,000 years ago, inclosed in a hardened shell of social-economic institutions scarcely 150 years old, is an opening scene that one can scarcely ever forget. Would that the author had developed in all its fascinating ramifications the possibilities of such a heroic theme.

But although Professor Ogburn has brought to his aid the tools of statistics, sociology, anthropology, psychology and biology and has shown an admirable breadth of view and a grasp of detail, he has failed to blend the mechanical elements of his knowledge into one organic whole that is phrased in terms of one world common denominator of universal appeal. The use of the technical language of psychoanalysis and statistics makes it all too evident that the author has not grasped his problem as a single entity with many sides—a problem with the unity and complexity of life. His ideas follow one another in somewhat dragging and halting fashion and as we come to sections that seem to be mechanically placed in the book with but little blood relationship to what follows or precedes, we feel the lack of that bold conception of the campaign as a whole as well as that mastery of detail which carries us along from beginning to end in one breathless narrative.

But the reviewer should not be unduly critical of these faults of style which Professor Ogburn will doubtless remedy, when after a thorough assimilation of his wide collection of material, he prepares a revised and an enlarged edition. So well does the author succeed as it is, and so well worth reading is the book, that the reviewer would not make even this criticism did not the magnificence of the theme warrant magnificence of treatment.

The somewhat mechanical character of the style does however point to a mechanical handling of the subject matter which cannot be lightly passed over. The use of statistics on insanity rates and the enumeration of the number of cases in which the same thing has been discovered independently by different people have their merits in setting forth the facts in clearer light, but they have their disadvantages to the extent that they ignore the organic relationships between these airtight statistical classifications.

Flowing out of the same somewhat mechanical theory of causation is another defect—the explanation of the lag in culture or of certain maladjustments between man and his social environment as something due to unethical, accidental, or fortuitous circumstances that might possibly be removed by intelligent social control. Without attempting to use this as an occasion to exploit a revamped theory of *laissez-faire*, the reviewer merely suggests that a deeper analysis of the whole evolution of man with respect to his environment might show that all these maladjustments and lags were just as inevitable, natural, and uncontrollable as any of the phenomena that had passed the moral censor. Professor Ogburn very clearly shows, however, that he is clearly aware of the difficulties and complexities of any effective social control.

However, if he believes that the social environment can be controlled in some measure by conscious human volition, he should point out with greater distinctness the direction in which we should go and the goal that we are striving to reach. To what extent can we build a new society according to the specifications of sociological architects and to what extent must we discipline ourselves by philosophy to make the best of a million-year old set of forces that we are individually powerless to change? The reviewer has thus registered the reaction which the book has made upon his own psychological complexes and he has left for the readers of the book—of which there should be a multitude—the task of discovering for themselves the many treasures that are lurking within its pages.

HOMER HOYT.

THE PSYCHOLOGY OF NATIONALITY AND INTERNATIONALISM. By W. B. Pillsbury. New York. D. Appleton & Co. Pp. viii+314.

Prof. Pillsbury's book, which was suggested as a result of certain observations during his sojourn in Greece, when he came in contact with a number of American Greeks who had returned to fight in the Balkan War, is a careful attempt to approach the riddle of nationality and its practical complications, mainly from the psychological angle. The writers whose views have been drawn upon for the most part are Graham Wallas, William McDougall and Trotter. What the author endeavors to do is to trace the growth of convention and ideal through experience out of instinct.

Although Professor Pillsbury touches upon the same topics as have been attempted by many before him such as the nature of nationality, the rôle of hate as a social force, nationality in history, nationality in the process of naturalization, the national mind, etc., it is gratifying to find that his moderate position and sypathetic point of view lend these discussions a new coloring. He is careful to weigh the facts without strongly insisting upon a certain doctrine or vehemently denying it. Nationality is to him, as might be expected, a psychological and sociological problem. ''If you are to know to what national group an individual belongs, the simplest way is to ask him, and while his answer cannot always be trusted, but must be interpreted in terms of his general behavior, it is if he speaks the truth, a better criterion than history or racial descent or physical measurements.''

Professor Pillsbury throughout the book stresses the concept of nationality as more fundamental or rather perhaps more significant than that of either the race or the state. The consciousness of nationality he defines as ''an awareness of belonging to a group with pride in the ideal notion of that group as a separate entity, a willingness to be controlled by the ideals of that group and to serve its ends.'' Other factors may enter and are of varying importance, but neither racial unity, nor homogeneity of language nor the possession of a homeland counts as all-important.

While not believing in a group consciousness apart from the constituent consciousnesses, the author still conceives of the nation as an entity that changes and grows and still persists, as an ''ideal which controls the acts of an ever shifting multitude.''

The book teems with suggestive observations indicating that the author possesses a clear insight into international affairs which should make his advocacy of a league of nations as developed in his last chapter more compelling. Prof. Pillsbury has perhaps not dealt with all the phases and issues of nationality as thoroughly as could be desired, but one feels that he has given the whole subject a great deal of thought and has been guarded against expressing himself dogmatically. It is high time for psychologists in this country to direct their attention to this sorely neglected branch of psychology. For adequate treatment group psychology must be anchored to a general psychology rather than to sociology. A. A. ROBACK.

DEMOCRACY AND THE WILL TO POWER. By James N. Wood, With an Introduction by H. L. Mencken. New York. Alfred A. Knoff, 1921. Pp. 245.

In this work, we have an interpretation of politics in terms of the Nietzschean philosophy. The author gives a thoroughly ''realistic'' account of politics and of the processes of society in general. For him, the social compact is a fiction and society not only has been but still is in a state of nature. The social scene as viewed by our author, may be summarily described in the following propositions: (a) Individuals are in a state of continual conflict; (b) Individuals are naturally divided into two distinct groups: the group of superior individuals and that of inferior individuals; (c) The superior individuals succeed, in the long run, in exploiting the inferior individuals.

To explain, the inferior group consists of individuals that are conscious only of the will to exist, but superior individuals have the will to create as well; now, the will to create at the expense of other individuals gives rise to the will to power; and the will to power is the dominant fact in the field of political life. Democracy exists merely as an appearance. The mob—which is another name for the inferior group—is stupid, fooled by phrases and carried away by emotion; it is thus at the mercy of the superior group which—for all its superiority—does not scruple to exploit it for its own purposes. When the mob breaks away from control we have revolutions. But such a condition is temporary and the mob soon submits to new masters; thus, the French Revolutionaries soon came under the domination of Napoleon, whereas Lenin is now in control of the situation in Revolutionary Russia.

To put this in Freudian terms, the democratic slogans are a rationalization serving to disguise from the public (the censor) the aggressive and selfish designs of the superior classes.

That many facts may be found confirming the above theory cannot be denied. Aristocracy and democracy have been always regarded as the two great,—though conflicting—ideals, As a matter of fact, neither of these is ever realized in practice; we are ruled neither by the best nor by the most. Further, the author's point about the impossibility of realizing the democratic conception seems to be borne out by recent experiments in mental tests, according to which mental inequalities have a hereditary basis. But when all is said and done, we must admit that the whole subject is not yet out of the prescientific stage of inquiry. Our author accuses the advocates of democracy of being theorists and victims of all sorts of romantic delusions, but is not his jungle-conception of society a similar delusion, or an exaggeration, to say the least?

Darwinian evolutionism has been the source of an orgy of romantic philosophies that divide themselves, on the whole, into two opposite camps. On the one hand, we have the optimists who interpret evolution to mean the prospect of unlimited progress, and on the other, the cynics, such as Nietzsche and his disciples, who with an equal susceptibility for the sensational, dramatize Darwin's conception of the struggle for existence and survival of the fittest to mean a ruthless and fatal social conflict in which the superman is the victor. Indeed, to the romantic imagination of these cynics, history is not so much a drama as a melodrama, with a villain, too, who—as the perspicacious reader has already guessed—is—— Woman. To quote the author (p. 228): "In the will-war woman always appears as a weakening factor." "Achievement she desires, but the achievement of the average or something less than herself. Woe to the man of talent who permits himself to enter into an alliance with her! His life will become a struggle to escape the commonplace, to which she will ever lure him" (p. 184).

To pursue the contrast further, the optimists see evolution as a moral process working toward perfection, whereas the cynics conceive of it in purely physical terms, as a mechanical conflict of forces where the sole determining factors are strength and vitality. And yet the situation is not pictured as absolutely nonmoral by the latter; rather it is for them immoral and sinister; there is a suggestion of a devil behind the scenes, since a defiant trampling of all ethical laws is represented as conducive to victory in the struggle.

That the neo-Nietzschean philosophers, despite their protestations, are romantic and unscientific, is further evidenced by the rigidity and formalism of their concepts and the dogmatism of their assertions. Does society really divide itself rigidly into superior and inferior individuals? And what are these various ''wills''—the ''will to power'' and the ''will to create''—and what are the ''superman,'' and the man of genius and the ''masculine principle'' and the ''feminine principle'' but romantic fictions? As for dogmatism and absoluteness of statement consider such passages as the following: ''Nature ever impels her (woman) to war upon the male—woman does not 'rise,' the world to the contrary notwithstanding. Her relation to society is constant; she is Sex, and cannot escape her inborn limitation'' (p. 228). ''His (man's) driving impulse is the will to power and he is bound by it as remorselessly as is woman by sex. It is in the expression of this will to power, in the imposition of this will that he finds joy. Happiness comes to him, therefore, as the result of war'' (p. 229).

The treatment of this subject will become scientific only when it is conducted on careful psychological methods. The will to power and the will to create so far as they symbolize anything real will be seen to dissolve into a number of different elementary impulses. Again, a more enlightened psychological outlook will abstain from explaining human conduct, in terms of only one motive (whether it be power or sex, or the economic impulse); it will not see human nature as wholly bad or as wholly good; it will avoid sweeping statements and vague generalizations; especially will it refuse to draw conclusions about the future of man from altogether brief observations and limited experiments (such as that of present-day democracy). This social-psychological science of politics is still nonexistent though excellent anticipations of it are to be found in the writings of Mr. Graham Wallas and his school. Mental testing is very experimental and the fundamental question of heredity vs. education has not yet been settled. There is hardly a single well-attested and exact law upon which any inferences might be based. One for example might be inclined to say that docility and leadership are enduring human instincts and that consequently the ideal of self-government in any community is utopian—the obvious reply to which would be that we do not know what instincts are enduring and what are not, that, in fact, we do not know whether there are any permanently unchanging instincts at all, and—what is more—that we are coming to doubt whether there are any instincts at all. In sum, the whole field is still penetrated with dense darkness, which works like this one of Mr. Wood will do little to dispel.

RAPHAEL DEMOS.

THE ELEMENTS OF SCIENTIFIC PSYCHOLOGY. By Knight Dunlap, Professor of Experimental Psychology in The Johns Hopkins University. St. Louis. C. V. Mosby Co. 1922. Pp. 368. Price $3.50.

This work must prove quite a puzzle to most psychologists. It is a surprise to find a textbook in the elements of psychology published in 1922 devoting more than forty per cent of its pages to the study of sensations, and moreover the first forty per cent. It is a further surprise to find the author of "An .Outline of Psychobiology" writing a book which he announces as a "scientific" psychology and issues through a firm limiting itself largely to medical works, but which contains less than twenty pages of description and only three schematic illustrations bearing on the neural and motor mechanisms. This same fault of proportion is shown in other ways (*e.g.*, the use of two full pages for reproducing two photographs to illustrate aerial perspective). The teacher must be puzzled at the order of presentation: after the lengthy discourse on the senses the topics as taken up are, to condense the list: thought, bodily mechanism, instinct and habit, perception, thinking, feeling, the self.

The most puzzling feature of this book, however, is its mosaic of conservative and radical tendencies, so that one reading on a given page cannot predict the point of view he may find presented on the very next. Among the many instances of conservatism may be listed: the use of Wundt's sensory "fusion" and "complication"; much emphasis upon differentiation of the imaginal types; the distinction between reproductive and productive imagination; the statement that "consciousness is integrative"; a wholly structural analysis of thought content (in Chap. VIII); the definition of an instinct as a native combination of activities producing a definite, and on the whole useful, result, and the somewhat critical listing of instincts; a treatment of reasoning and judgment that is, to turn Professor Dunlap's own phrase against himself, little but a "paraphrase of the logician's treatment"; and the sentence "All that is meant by the 'mental age' rating of defectives is that in a certain standardized test the defectives attain the ratings which normal children of the ages specified would attain *in that test*."

Interlarded with the above are to be found radical tendencies of various sorts: listing the tickle sense and the vibration sense; analysis of color sensation into the elementaries red, blue, and chlor; thought given behavioristic-physiological interpretation as a process based on striped muscle reactions (in Chap. XIV—to be compared with treatment in Chap. VIII); a generous use of the principle of the conditioned reaction but with an unjustified reluctance to use the name; the interpretation of perception as an integration of reaction patterns; a division of emotion into its quick muscular and slow glandular components; etc.

In an appendix the author gives a descriptive account of typical psychoses, neuroses, and amentia, with the purpose merely of giving the student of psychology some acquaintance with the meanings of the terms. The whole matter of causation of the psychoses and neuroses is omitted (except in the case of paresis) because the present facts do not "justify the belief that any general causal conditions have been discovered".

In the Introduction mind is defined as "the totality of conscious adjustments or conscious processes". It is apparently "the thing" now for writers of textbooks to define the subject matter of psychology in terms that pay respect to both the introspective and the behavioristic viewpoints. The reviewer would suggest as a crucial test of a psychologist's faith some such question as this: When does a reflex become subject-matter for psychology—when it attains a conscious status, or when it reaches a certain degree of integration in reaction patterns? By this test Professor Dunlap's book would occupy an ambiguous position, sometimes appearing to emphasize the former attitude, sometimes the latter.

A reader picking up this book may feel an implicit challenge in the title, and may be led to ask whether this is *the* scientific psychology. Are all the theories and facts of solid scientific basis in general psychology given some attention or reference in this work so that one may know other doctrines to be false? Is the point of view and mode of attack the authentic one? Are the principles and the details always selected from that body of assured and tested knowledge accepted as common ground by the scientific psychologists? In a word, is this book an authoritative representation of psychology to-day?

J. F. Dashiell.

The Emotions. (A reprinting of selections from the writings of William James and Carl Georg Lange.) Volume 1 of *Psychology Classics.* Edited by Knight Dunlap, Johns Hopkins University. Baltimore. Williams and Wilkins Company, 1922. Pp. 135.

This volume is a reprinting of James' "What is an Emotion?" from *Mind,* vol. 9 (1884); Lange's "The Emotions" (1885), translated by Miss Istar A. Haupt from Kurella's German version; and James' chapter on "The Emotions" from his *Principles* (1890). As an assembling of three pioneer papers presenting in its original forms a common interpretation of a particular psychological topic, this work is of great value to the student, whether interested in the history of psychology generally or in the critical comparison of different interpretations of emotion.

The American reader, who it may be assumed is familiar with James' presentation, especially in the last chapter, will, doubtless, be most interested in the second paper. (This, by the way, is clearly translated.) After a description of the bodily disturbances associated with sorrow, joy, fright, and anger, Lange analyzes these into disturbances of muscular innervation of the voluntary, vasomotor, and organic types, finally isolating the vasomotor as the "real, primary effects of the affections, whereas the other phenomena . . . are only secondary disturbances." Then, with arguments that became familiar to readers of James' *Principles*—as, the test to take away the bodily symptoms from a frightened individual, the reference to the emotion-generating effects of wine and of various drugs, and the description of cases of emotional insanities—Lange states his thesis that "We owe all the emotional side of our mental life, our joys and sorrows, our happy and unhappy hours, to our vasomotor system". The main point of difference between Lange and James is, of course, that between the narrower and the broader recognition of the bodily processes involved.

The James-Lange treatment of emotion still holds the stage, in spite of certain inconclusive experimental data that have been pointed against it. Other and entirely different interpretations, as the psychoanalytic, may be developed, but for any complete theory of the emotional nature of man, account must be taken of the physiological basis here emphasized.

The reviewer feels, furthermore, that this theory of emotion has had influence in other parts of the psychological field in ways that have not been publicly acknowledged. The physiological-behavioristic interpretation of thought is one of its logical, and perhaps also really historical, descendants. And what might be styled the central-peripheral-central-peripheral interpretation of perception that is now clearly in process of formulation involves also much the same psychological principles as the James-Lange theory.

Professor Dunlap is doing a distinct service in bringing out this series of psychology classics.

J. F. DASHIELL.

DEVELOPING MENTAL POWER. By George Malcolm Stratton, Professor of Psychology in the University of California. With an introduction by Henry Suzzalo, President of The University of Washington. Boston. Houghton Mifflin Company, 1922. Pp. x+77. Price 80c.

The title of this little book from the Riverside Educational Monographs Series may be misleading to many: it is not a book devoted to the problems of training in any specific sense. Its aim is to sketch out "a simple general view of mental life in its fundamental working aspects". This aim is attempted largely in the form of a statement of a *via media* in "the most fundamental controversy which has harassed the profession" of teaching, that of general *versus* special training. To the reviewer this *via media* seems not as clearly put as is to be found elsewhere in simple texts in educational psychology; and it is doubtful if the author's excursions into "intelligence", "the instincts", "the emotions", and "will", will give the average teacher a very definite view of mental life, nor a very up-to-date one. The reviewer does not share the editor's "greatest assurance" in predicting the influence of this book.

J. F. DASHIELL.

THE MIND IN THE MAKING. By James Harvey Robinson, Lecturer in the New School for Social Research, sometime Professor of History in Columbia University. New York. Harper and Brothers, 1921. Pp. 235. Price $2.50.

"The professor who studies the past for the sake of the future" has here produced what he calls "an essay—not a treatise—on the most important of all matters of human concern . . . , (suggesting) but the beginning of the beginning now being made to raise men's thinking onto a plain which may perhaps enable them to fend off or reduce some of the dangers which lurk on every hand." Humanity has tried spiritual exhortation, traditional education, and mere changes in economic and political organization, only to see that these methods alone do not promise the adjustment we must reach. There remains this one hope, namely, Intelligence, a tool as yet untried in application to human relations.

For there has been progress in thinking, in the natural sciences; but the sciences of man remain in the stage in which Aristotle left them. Even the garage mechanic thinks more scientifically, with less mystic respect for outworn methods, than does the average senator. This difference is partly because society, which has become fairly tolerant of the investigations by natural scientists, remains intolerant toward free study of social questions. "History," however, "by revealing the origin of many of our current fundamental beliefs, will tend to free our minds so as to permit honest thinking," thus "bringing the mind up to date."

In looking back over our ascent from the animal world, Professor Robinson makes out four historical layers underlying the minds of civilized men: the animal mind, the child mind, the savage mind, and the traditional civilized mind; levels of mentality which never release their hold upon us. From the savage mind, according to the author, we have inherited our belief in a soul, our vicious habit of personification in general, and the institution of taboo, as it functions in modern civilization. As for the civilized mind, he shows how the Greeks bequeathed to us our confidence in the liberal arts, metaphysics, and formal logic; and how the medievals gave us our religious ideas and standards of sexual conduct and prudery. Our scientific conceptions, as he demonstrates by his famous clock analogy, are relatively new, and have been gained through painful research and rejection of accepted notions. Born wholly uncivilized, we learn not only by "fumbling and success," but also by the exclusively human faculty of imitation, to profit by the achievements of our predecessors. A few individuals—the gropers, monkeyers, biological variations whose curiosity is above average—achieve the supreme human quality of analysis. And such minds have been responsible for the major portion of human progress.

It is clear that by Intelligence, Professor Robinson does not mean "pure reason." There is no such thing. Aside from the several "layers" of the mind, he explains that we have to reckon with the physiological changes which, escaping our notice, are called the "unconscious"; and more especially, we have always with us those inferior types of mental activity known as revery and rationalizing, respectively. Rationalizing, in particular, is the term that we must apply to a tremendous amount of our philosophy and social science,—a conclusion which, the author thinks, may be ranked by students a hundred years hence as one of the several great discoveries of our age. Real "creative thought," however, rooted in curiosity, begets knowledge, and so actually changes our ways. While such thought is usually intermingled with the other types of thinking, outstanding examples of true intelligence can be found in men like Galileo and Faraday.

From such a position Professor Robinson portrays the sickness of an acquisitive society, the smug unintelligence of the philosophy of "safety and sanity," and the atavism and suicidal dishonesty of the current philosophy of repression, as illustrated by the Lusk situation. Yet he sees great hope in the present. We are more humble in the face of complexities, and more free from prepossession, than any previous generation. And, in consciously overcoming our fear of thought, and incorporating the ideals of open-mindedness and truth in our educational system, we have the opportunity to substitute purpose for tradition.

"Life," he concludes, ". . . has become a solemn sporting proposition—solemn enough in its heavy responsibilities and the magnitude of the stakes to satisfy our deepest religious longings; sporty enough to tickle the fancy of a baseball fan or an explorer in darkest Borneo."

The book ends with a bibliographical appendix which whets one's appetite for further reading in some of the newer ways of looking at things.

It is evident the theoretical analyses presented in this volume do not pretend to technical psychological perfection. It is just as apparent, however, that Professor Robinson has grasped the significance of many of the newer contributions to social phychology, contributions from both the behaviorists and the psychoanalysts. He has appreciated, too, the progressive antimetaphysical philosophical tendencies, exemplified notably in Dewey. Hence the volume may be found useful in elementary courses dealing with social psychology and thought. And while perhaps few will agree with all the results of the study, as an effort to secure for society "a well ventilated mind," it seems that the work must deserve unusual attention.

W. S. Taylor.

NEW BOOKS RECEIVED

(*This notice does not preclude the book from further review or comment.*)

Essentials of Psychology. Revised edition. By Walter B. Pillsbury. New York. The Macmillan Co. 1920. Pp. ii+423.

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Lehrbuch Der Experimentellen Psychologie. By Joseph Fröbes. St. Louis. B. Herder Book Co. 1920. Pp. xviii+704. Price $5.25.

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The Eugenic Prospect, National and Racial. By C. W. Saleeby. New York. Dodd, Mead & Co. 1921. Pp. 239.

An Introduction to the Science of Sociology. By Robert E. Parks and Ernest W. Burgess. Chicago. University of Chicago Press. Pp. xxi+1040. Price $4.50.

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The Morphologic Aspect of Intelligence. By Sante Naccarati. New York. G. E. Stechert & Co. Pp. 44. Price $1.10.

The Foundations of Personality. By Abraham Myerson. Boston. Little, Brown & Co. 1921. Pp. 400.

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Measuring Minds (An Examiner's Manual). By Caroline E. Myers and Gary C. Myers. New York. Newson and Co. 1921. Pp. 55.

The Sense of Humor. By Max Eastman. New York. Chas. Scribner's Sons, 1921. Pp. xii+257. Price $2.00.

General Psychology in Terms of Behavior. By Stevenson Smith and Edwin R. Guthrie. New York. D. Appleton and Co. 1921. Pp. xii+270.

The Soul of a Child. By Edwin Bjorkman. New York. Alfred A. Knopf, 1922. Pp. 322. Price $2.50.

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An Essay on the Physiology of Mind. By F. Dercum. W. B. Saunders Co. 1922. Pp. 150. Price $1.75.

Senescence, or the Last Half of Life. By G. Stanley Hall. New York. D. Appleton & Co. 1922. Pp. xxvi+518.

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Tertium Organum. By P. D. Ouspensky. New York. Alfred A. Knopf, 1921. Pp. 336.

Past and Present with Mrs. Piper. By Anne Manning Robbins. New York. Henry Holt and Co. 1921. Pp. iv+271.

In the Clutch of Circumstance: My Own Story, by a Burglar. New York. D. Appleton & Co. Pp. 275. Price $2.00.

The Psychology of the Special Senses and Their Functional Disorders. By Arthur F. Hurst. Oxford Medical Publications. Pp. 125.

Elements of Human Psychology. By Howard C. Warren. Boston. Houghton Mifflin Co. 1922. Pp. 416.

A Handbook of Mental Tests. By Fred Kuhlman. Baltimore. Warwick and York. Pp. 209.

La Methode Psychanalytique. By Raymond de Saussure. Paris. Payol and Cie. Pp. 187.

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Psychology, The Science of Human Behavior. By Robert Chenault Givler. New York. Harper & Brothers, 1922. Pp. 382.

Case Studies Nos. 6 and 7. Boston. Judge Baker Foundation. Pp. 58.

La Religion et La Foi. By Henri Delacroix. Paris. Librairie Felix Alcan. 1922. Pp. 462.

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A Study of American Intelligence. By Carl C. Brigham. Princeton. Princeton University Press, 1923. Pp. 210.

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The Achievement of Subnormal Children in Standardized Educational Tests. By J. E. Wallace Wallin. Oxford, Ohio. Miami University Bulletin, 1922. Pp. 97.

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Child Psychology. By Vilhelm Rasmussen. New York. Alfred A. Knopf, 1922. 3 volumes.

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The New Psychology and the Teacher. By Crichton Miller. New York. Thomas Seltzer, 1922. Pp. 225.

Abnormal Behavior, Pitfalls of our Minds. By Irving J. Sands, M.D., and Phyllis Blanchard. New York. Moffat, Yard and Co. 1923. Pp. 482. Price $4.00.

Social Psychology. By Robert H. Gault. New York. Henry Holt & Co. 1923. Pp. 336.

Seele und Leben Grundsätzliches zur Psychologie der Schizophrenie, u. s. w. By Paul Schilder. Berlin. Julius Springer, 1923. Pp. 200.

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Measurement of Emotion. By Whately Smith. New York. Harcourt, Brace & Co. 1923. Pp. 184.

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